

Appendix C

SITE INVENTORY

A detailed Site Inventory was developed for each Unit and Subunit of the Wildlife Area to establish an information baseline for the Planning Process. Information was drawn from Department records, the SRGIS, a literature search and site analysis. The Site Inventory for each Unit and Subunit consists of:

- ◆ A standardized text format 2 to 3 pages in length
- ◆ An aerial photo excerpt of the site with the current site boundaries indicated
- ◆ A USGS topographic map excerpt with the current site boundaries indicated

Appendix C is intended to be a permanent record for the Department in a format that can be duplicated if new properties are added to the Wildlife Area in the future.

This Appendix C contains the entire Site Inventory. .

SACRAMENTO RIVER WILDLIFE AREA - SITE INVENTORY

Unit: Merrill's Landing Wildlife Area **Parcel History No.** 820432 **Inventory Date:** 9/14/03

Location: **River Mile:** 212.5-214.5L **County:** Tehama

DFG Record Area: 295.52 acres

Estimated Actual Area: 281 acres

Basis: 1999 Sacramento River Aerial Atlas

- **APN(s):** 091-090-003, 006, 007,

- Generalized Legal Description:	Section 1-2	Township 23N	Range 02W
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- **Survey Status:** There is no known property survey.

- **Sacramento River Conservation Area Subreach:** Red Bluff to Chico Landing Reach (Woodson Bridge Subreach)

150 Year Meander Belt Relationship: The Wildlife Area is entirely within the DWR 150 Year Meander Zone which defines the Inner River Zone of the Sacramento River Conservation Area.

Site Access - **River Access:** The Wildlife Area is accessible from the river along several narrow beach areas.

- **Public Road Access:** The site has no public road access. Public access to the Wildlife Area is only from the river.

Adjoining Property:	Direction	Land Use	Ownership
	N	restored riparian, open	USFWS
	S	river/gravel bar, riparian	State, private
	E	riparian	DFG, private
	W	riparian	DFG

Physical Description: The Wildlife Area is an irregular shape lying on the north side of the river. A low terrace, oxbow area borders a higher central area on the east, west and north. The central area consists of a high terrace that occupies the south half of the site with low terrace areas generally occupying the north portion of the site. Several swales cross the site from west to east. The oxbow ceased to be the main channel in the late 1970's. It holds a permanent pool of water in the easterly area and the pool is no longer connected to the river during normal flows.

- **River Channel Meander History / 25 & 50-Year Projections:** The river moved progressively across the north half of the Wildlife Area over the past century. The oxbow area was the only river channel until 1974 when the river cut across the neck of the bend. Despite the efforts of the Corps of Engineers to block the cut off the channel, it became permanent after the floods of the late 1970's. The Unit is not within the 25 or 50-year erosion areas as projected by DWR and the site is expected to expand substantially to the south as the river channel moves to the south.
- **Inundation Frequency:** The Wildlife Area has a projected inundation frequency of from one to two and one half years per the DWR GIS. Inundation frequency is generally a function of elevation.
- **Soils:** Columbia series soils are mapped in the high terrace areas and in the oxbow areas. The remaining low terrace areas are depicted as riverwash.

Vegetation:

- **Habitat Types as of:** (adapted from DWR GIS / Chico St. analysis of 1999 aerial photos)

Cottonwood Forest	25 ac.
Disturbed (gravel mound)	1 ac.
Gravel*	52 ac.
Herbaceous Layer	3 ac.
Mixed Riparian Forest	76 ac.
Open Water	3 ac.
Riparian Scrub	5 ac.
**Gravel includes gravel bars, sand bars and channel material.	

- **Existing Vegetation Comments:** Following the cutoff of the oxbow in the late 1970's riparian vegetation has steadily expanded on the site. The oxbow area has gradually filled to support a dense, mixed riparian forest.
- **Existing and Historical Agriculture:** The high terrace areas in the southwest portion of the site were farmed for row crops until access from the Tehama County side of the river was severed in the late 1970's.
- **Vegetation Succession Projection:** The oxbow area is anticipated to transition to a Mixed Riparian Forest. The evolution of the central, high terrace area has been suspended by invasive species domination.
- **Restoration History:** There is no history of restoration on the site.
- **Analysis of Restoration Potential:** The central, high terrace is dominated by yellow starthistle. It appears to have dry, shallow soils and there is no existing vehicular access to the site. It is, however, a large area with very limited habitat value at present. Restoration of the 130 +/- acre area, potentially including a burning program to control star thistle, should be evaluated

Special Status Species: See standard species for the Wildlife Area.

Cultural Features: No significant cultural features or recorded archaeological sites have been identified on the site.

Research and Monitoring Activities: No research or monitoring activities other than standard Department monitoring have been identified.

Acquisition:

Parcel History No.	Year	Acres	Funding Source
820432	1979	295.52	Fund 742 – Urban & Coastal Park Fund (1976) (federal) – Land and Water Conservation Fund (51% of cost)

Specific Management Issues / Concerns: The Wildlife Area directly adjoins the Merrill's Landing Unit of the Sacramento River Wildlife Area. Management as a single DFG property should be established.

Potential for Coordinated Management with Adjacent Properties: The Wildlife Area lies to the east and west of the Merrill's Landing Unit of the Sacramento River Wildlife Area that is managed by DFG Region 2. These two DFG areas should be managed as one site. Immediately north of the Merrill's Landing property is the U.S. Fish and Wildlife Service's 420-acre Rio Vista Unit. The USFWS and DFG properties should either be managed in a coordinated manner or managed by one entity as one area

Other Reports / Data Available:

- California Department of Fish and Game, Property Inventory Form, Property # 02397, Parcel History 820432. Sacramento, California.
- Greco, Steven E., 1999. Monitoring Riparian Landscape Change and Modeling Habitat Dynamics of the Yellow-billed Cuckoo on the Sacramento River, California - A Dissertation in Ecology for the Office of Graduate Studies, University of California, Davis, Davis, California.

Comprehensive Management Plan for the Sacramento River Wildlife Area

- **River Channel Meander History / 25 & 50-Year Projections:** The river moved progressively southwest over the west parcel over the past century. The oxbow area was the only river channel until 1974 when the river cut across the neck of the bend. Despite the efforts of the Corps of Engineers to block the cutoff the channel, it became permanent after the floods of the late 1970's. The west parcel is not within the DWR projected 25 or 50-year erosion areas and the area is expected to continue to expand to the southeast. The southeast and northeast parcels are not projected to be within the 25 or 50-year erosion areas.
- **Inundation Frequency:** The west parcel has a one-year inundation frequency per the DWR GIS. The high terrace areas of the southeast and northeast parcels have a five-year frequency of inundation while the oxbow areas are believed to have a one-year frequency.
- **Soils:** The west parcel is primarily riverwash with about 15% of the area in the oxbow mapped as a Columbia series soils. The southeast and northeast parcels are mapped as a combination of Gianella and Maywood series soils.

Vegetation:

- **Habitat Types:** (adapted from DWR GIS / Chico St. analysis of 1999 aerial photos)

Cottonwood Forest	36 ac.
Marsh	3 ac.
Gravel*	54 ac.
Herbaceous Layer	3 ac.
Mixed Riparian Forest	85 ac.
Riparian Scrub	11 ac.

 *Gravel includes gravel bars, sand bars, and channel material.
- **Existing Vegetation Comments:** Following the cutoff of the oxbow in the late 1970's riparian vegetation has steadily expanded on the site. The oxbow area has gradually filled to support a dense, mixed riparian forest. The southeast parcel contains several, nonnative fruit and ornamental trees suggesting that it may have been a home site in the past. The west parcel is dominated by black walnuts in the oxbow area.
- **Threatened, Rare or Endangered and Special Concern Species:** See standard species for the Wildlife Area.
- **Existing and Historical Agriculture:** There is no identified history of agricultural activity within the boundaries of the Unit.
- **Vegetation Succession Projection:** given the erosion projected for the west parcel and relative lack of flooding of the southeast and northeast parcel, no substantial change is anticipated.
- **Restoration History:** There is no known history of restoration on the site.
- **Analysis of Restoration Potential:** The west parcel is in undisturbed, natural riparian vegetation and the only desirable restoration is the control of black walnuts. The southeast parcel is dominated by nonnative tree species and substantially disturbed but it is a very small site that is likely not economically viable for traditional restoration. Removal of the non-native species would increase the habitat value. The northwest parcel is in dense riparian vegetation and no restoration is required.

Special Status Species: See standard species for the Wildlife Area.

Cultural Features: No significant cultural features or recorded archaeological sites have been identified on the site. The southwest parcel shows signs that it may have been a home site in the past.

Research and Monitoring Activities: No research or monitoring activities other than standard Department monitoring have been identified.

Acquisition:

Parcel History No.	Year	Record Ac.	Funding Source
820990	1991	165.50	Fund 786 - Ca. Wildlife, Coastal & Parkland Cons. Act (Prop. 70, 1988)
821456	1995	1.0	Trade for a 1.7 ac portion of the Stegeman Unit

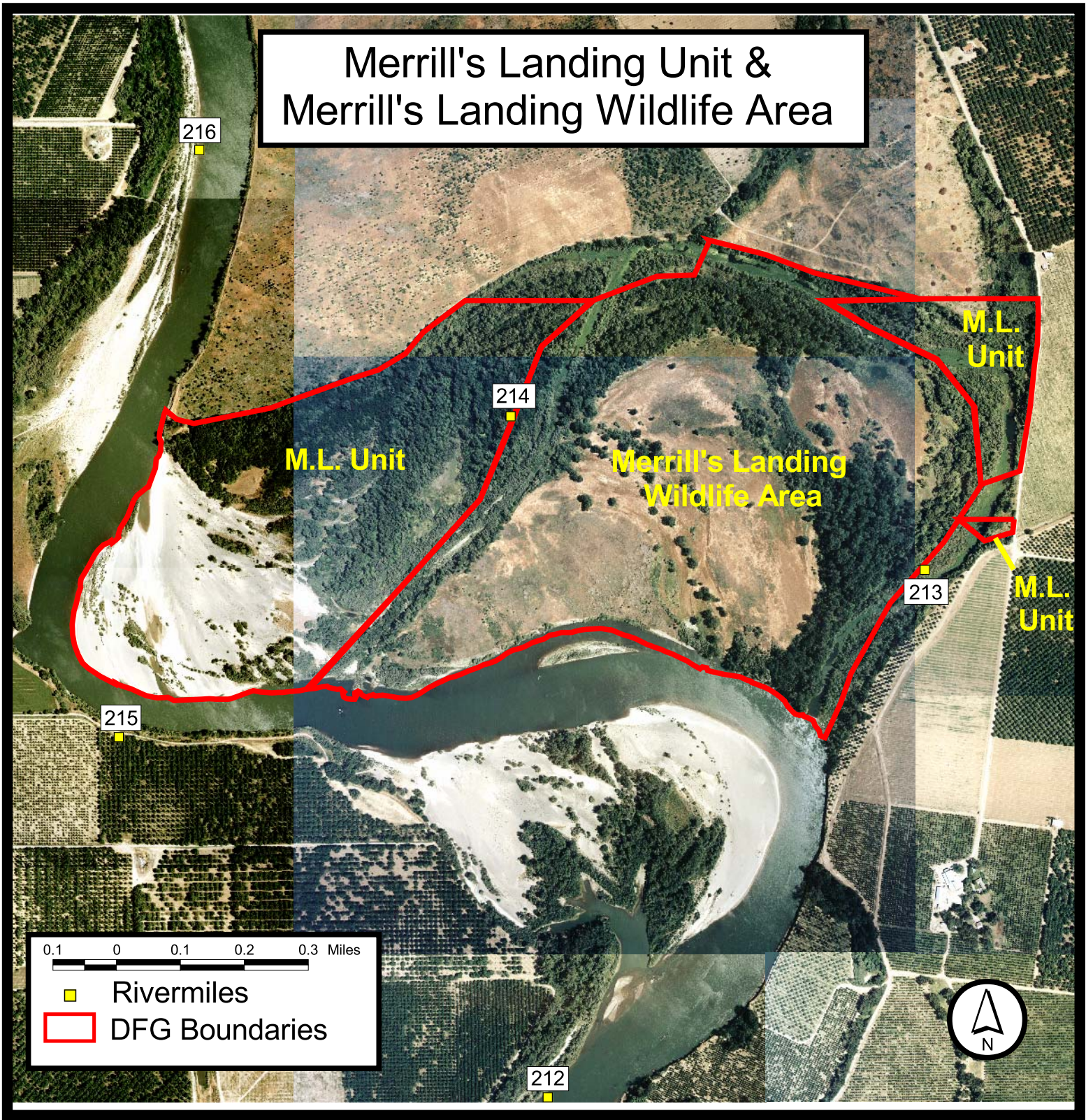
Specific Management Issues / Concerns: The southeast and northeast parcels are accessible from Ballard Road. While the northwest parcel is relatively unaffected, the southwest parcel is degraded by frequent vehicular access and dumping of various materials. Signing and a physical barrier to access are needed to control the degradation of the area.

Potential for Coordinated Management with Adjacent Properties: The Unit lies to the east and west of the Merrill's Landing Wildlife Area that is managed by DFG Region 1. These two DFG areas should be managed as one site. Immediately north of the Merrill's Landing property is the U.S. Fish and Wildlife Service's 420-acre Rio Vista Unit. The USFWS and DFG properties should either be managed in a coordinated manner or managed by one entity as one area.

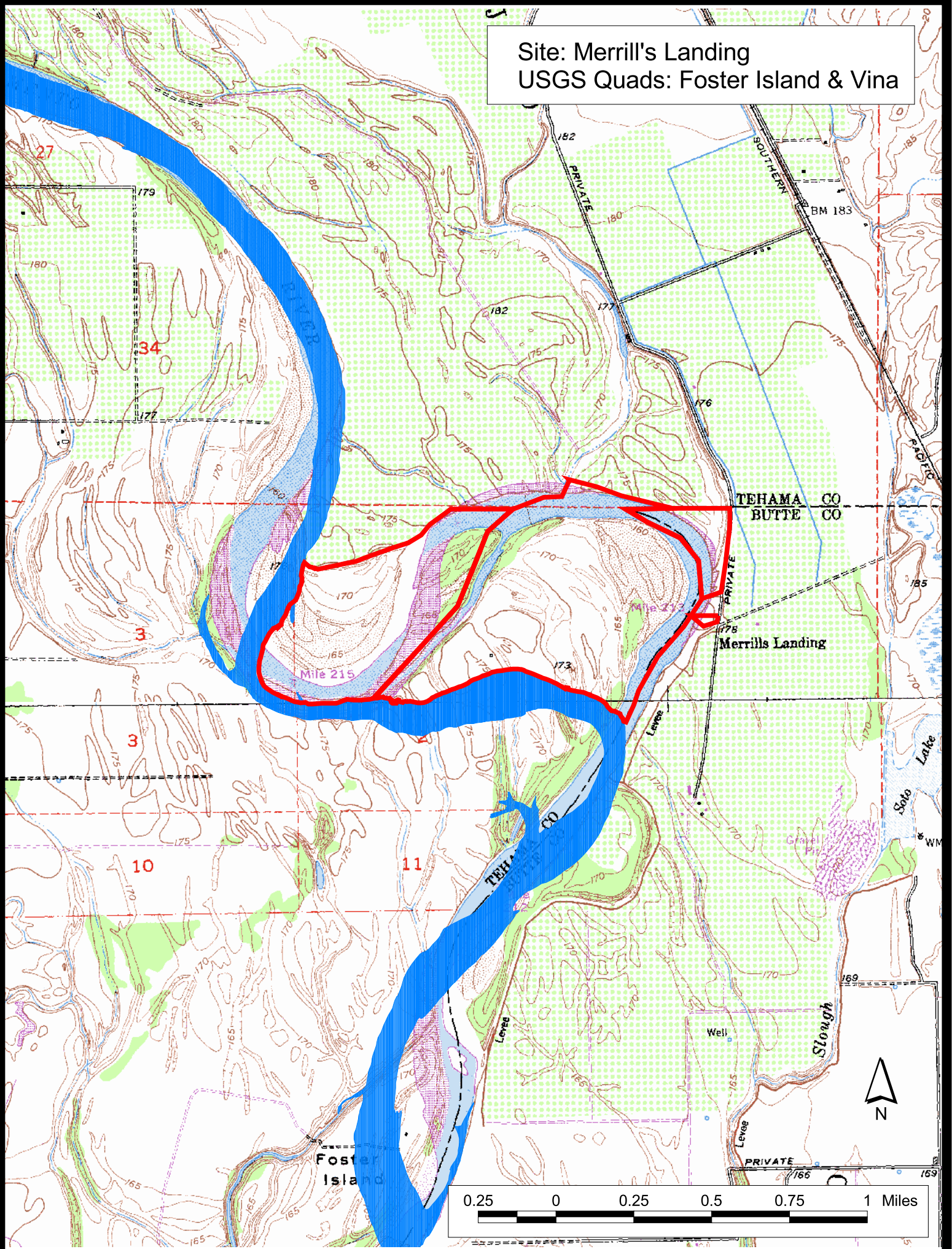
Other Reports / Data Available:

- California Department of Fish and Game, Property Inventory Form, Property # 02397, Parcel History 820990 and 821456. Sacramento, California.
- Greco, Steven E., 1999. Monitoring Riparian Landscape Change and Modeling Habitat Dynamics of the Yellow-billed Cuckoo on the Sacramento River, California - A Dissertation in Ecology for the Office of Graduate Studies, University of California, Davis, Davis, California.

Merrill's Landing Unit & Merrill's Landing Wildlife Area



Site: Merrill's Landing
USGS Quads: Foster Island & Vina



Unit: Dicus Slough Parcel History No. 820902, 821123, 821239 Inventory Date: 9/14/03

Inventory Date: 9/14/03

County: Butte

Basis: 1999 Sacramento River Aerial Atlas

USGS Topo Quad: Foster Island

- **Survey Status:** There is no known property survey.

- **Sacramento River Conservation Area Subreach:** Woodson Bridge Subreach

- **150 Year Meander Belt Relationship:** The westerly 70% Unit is within the 150 Year meander belt which defines the Inner River Zone of the Sacramento River Conservation Area.

- **Site Access - River Access:** Easy river access available via gravel bar on the southwest shore

- Public Road Access: No public road access. Public Access via River Only

Adjoining Property:	Direction	Land Use	Ownership
	N	riparian, orchard	private
	S	river, riparian, orchard, 1 residence	State, private
	E	orchard	private
	W	river, riparian, row crops	State / private

Physical Description: The west 10% +/- of the site is a low terrace with the remainder a high terrace. Dicus Slough holds a permanent pool of water on the southeast boundary and a shallow swale crosses the center of the Unit from north to south. An expanding gravel bar occupies the southwest boundary of the Unit.

- **River Channel Meander History / 25 & 50-Year Projections:** The river channel has moved westward since before 1900. DWR erosion projections indicate that approximately 40% of the site, on the west, will erode within the within the 50-year term. However, historic movement of the channel does not substantiate that projection which may be a data anomaly.

- **Inundation Frequency:** Flood frequencies generally increase with distance from the river with the exception of the Dicus Slough area. The Unit lies within 1 to 5 year recurrence zones.

- **Soils:** About 1/3 of the site consists of Columbia Sand. This soil is found along both the current river channel and within those portions of the sloughs found within the unit's boundary. The remaining 2/3 of the unit's soils consist of Maywood fine sandy loam soil

- **Habitat Types** (adapted from DWR GIS / Chico St. analysis of 1999 aerial photos)

Cottonwood Forest	25 ac.
Gravel	16 ac.
Marsh	2 ac.
Mixed Riparian Forest	18 ac.
Open Water	4 ac.
Riparian Scrub	90 ac.

- **Existing Vegetation Comments:** The portion of the site where orchards were removed is substantially dominated by invasive species, principally johnson grass, but including tree of heaven and himalayan blackberry, which have substantially limited natural recruitment of native species.
- **Existing and Historical Agriculture:** The majority of the site was used for agriculture in the past. An 64-acre Almond orchard and a 34-acre area cleared for row crops existed when the majority of the site was acquired in 1992. The almond orchard was removed in 1993 but, no restoration has taken place.
- **Vegetation Succession Projection:** The former orchard and crop areas exhibit limited recruitment of native oak species as well as black walnut and peach trees from former root stock. In the majority of this area invasive species, principally johnson grass and tree of heaven, dominate. It is anticipated these species will continue to preclude substantial natural recruitment of riparian vegetation.
- **Restoration History:** The almond orchard on the site was removed in 1993. No replanting has occurred.
- **Analysis of Restoration Potential:** The former orchard and row crop areas, which total about 80 acres, have adequate soils and reasonable access to permit restoration planting and no natural limitations have been identified. Restoration of the 80 +/- acre area should be evaluated in detail.

Special Status Species: See standard species for the Wildlife Area.

Cultural Features: No significant cultural features or recorded archaeological sites have been identified on the site. There is an existing well and electrical service in the east central portion of the site. The owner of the adjoining walnut orchard to the east has the right to continue its use.

Research and Monitoring Activities: No research or monitoring activities other than standard Department monitoring activities have been identified.

Acquisition:

Parcel History No.	Year	Acres	Funding Source:
820902	1989	20.08	Fund 140 - Environmental License Plate
821123	1991	25.0	Fund 786 - Ca. Wildlife, Coastal & Parkland Cons. Act (Prop. 70, 1988)
821239	1993	98.72	Fund 786 - Ca. Wildlife, Coastal & Parkland Cons. Act (Prop. 70, 1988)

Specific Management Issues / Concerns: Visible, signs of unauthorized vehicular access to and across the site from Department access point. Gating and signing to preclude unauthorized access should be provided.

Potential for Coordinated Management with Adjacent Properties: There are no adjacent conservation agency properties or unusual management coordination opportunities available in the area..

Other Reports / Data Available:

- California Department of Fish and Game, Property Inventory Form, Property # 02397, Parcel History 820902, 821123 and 821239. Sacramento, California.

Dicus Slough Unit

209



0.1 0 0.1 0.2 Miles

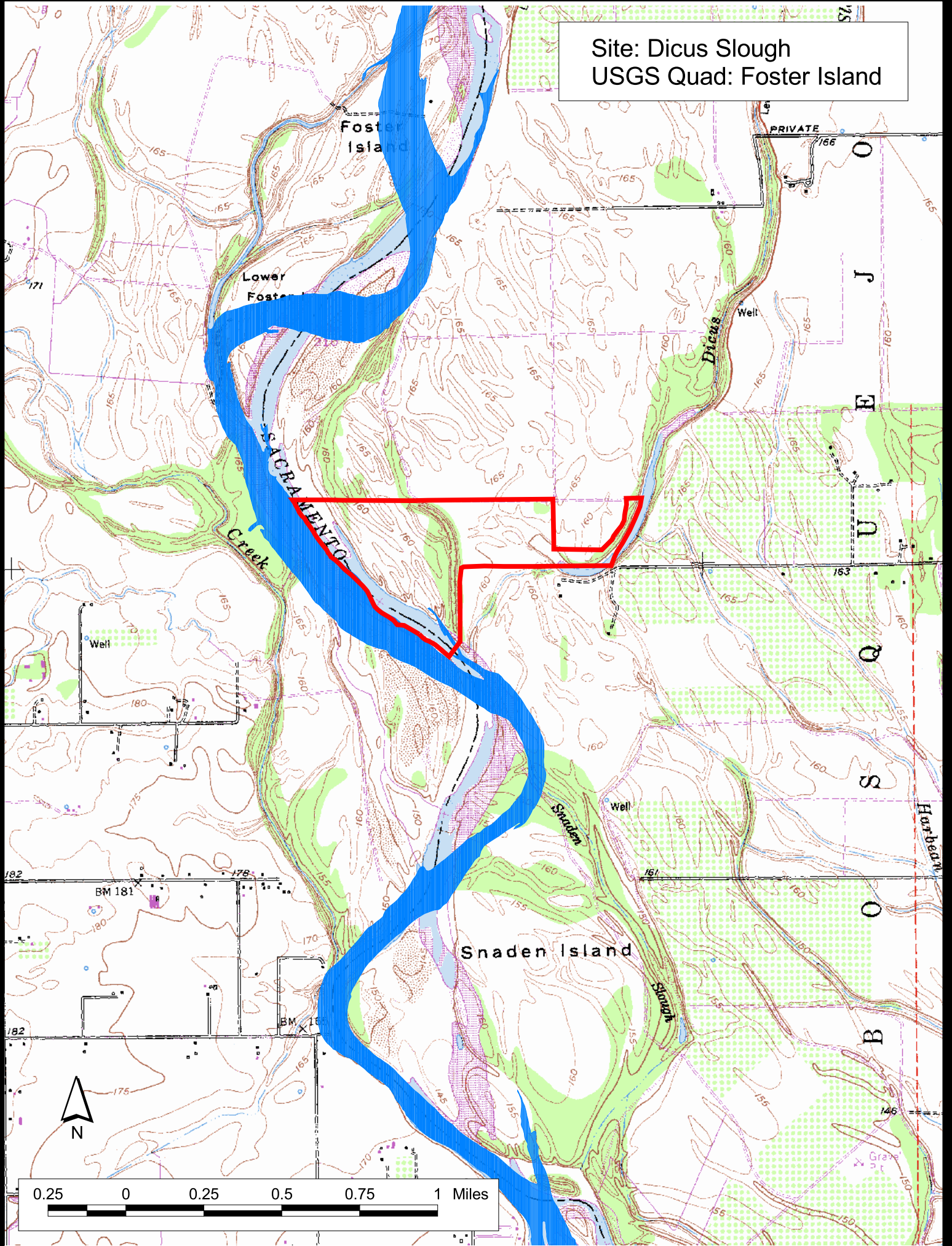


Rivermiles



DFG Boundaries

Site: Dicus Slough
USGS Quad: Foster Island



SACRAMENTO RIVER WILDLIFE AREA - SITE INVENTORY

Unit: Wilson Landing**Parcel History No.** 820825**Inventory Date:** 9/14/03**Location:** River Mile: 203 to 205L**County:** Glenn**Record Area:** 285.45 acres**Estimated Actual Area:** 338 acres**Basis:** 1999 Sacramento River Aerial Atlas**- APN(s):** 037-010-003, 110-003**USGS Topo Quad:** Corning

Generalized Legal Description:	Section	Township	Range
	6	22N	1W
	1	22N	2W
	31	23N	1W
	36	23N	2W

- Survey Status: There is no known property survey.**Sacramento River Conservation Area Subreach:** Red Bluff to Chico Landing Reach (Woodson Bridge Subreach)**150 Year Meander Belt Relationship:** The entire Unit is within the DWR 150 Year Meander Belt.**Site Access -River Access:** The site is accessible from the river at a point bar along the southwest edge of the site.**-Public Road Access:** The Subunit has no public road access. Public Access is only from the river.

Adjoining Property:	Direction	Land Use	Ownership
	N	riparian, orchards	private
	S	Orchards/Cultivated Land	private
	E	river / orchards, riparian	private
	W	river / riparian, orchards	private

Physical Description: The Subunit is an irregular oval lying on the east side of the river. The site was located on the west side of the river until 1970 when the neck of the bend was cut and an oxbow was formed. It is composed of a central high terrace with a low terrace area to the east, surrounded on three sides by an oxbow that occupies a low terrace. The oxbow has permanent water along the east perimeter of the site though the lake area does not connect to the river during normal flows. A more recently created gravel bar occupies the southwest corner of the property and it is separated from the bulk of the site by a secondary channel. A primitive roadway extends from the northwest boundary to the center of the site.

River Channel Meander History / 25 & 50-Year Projections: With the exception of the high terrace area in the west central portion of the site, the entire Unit has been within the river channel in the past century. The channel moved progressively northeast over the low terrace area during the 1900's. The river cut off the neck of the bend in 1970 and the reallocated main channel has moved to the southwest since that time. The DRW erosion projections anticipate the erosion of approximately 40 % of the southern portion of the site in the 25-year term and 60 % in the 50-year term. However, given the major, recent public investment in the GCID pumping plant upstream of the Unit, it is likely that steps may be taken to preclude meander in the area that would jeopardize that facility. Such steps could substantially reduce the projected erosion of this Subunit.

Inundation Frequency: The central portion of the site has an inundation frequency of 2.5 years or less. It is believed that the oxbow area is inundated annually.

Soils: Approximately 40% or of the unit's total area contains soils in the Columbia series. These soils are located north of the river in the high terrace areas. The remaining area, outside of the oxbow, consists largely of gravel and channel material. Soils information for the oxbow area is not available.

Vegetation:

- **Habitat Types:** (adapted from DWR GIS / Chico St. analysis of 1999 aerial photos)

Cottonwood Forest	40 ac.
Gravel	16 ac.
Herbaceous Layer	183 ac.
Marsh	5 ac.
Mixed Riparian Forest	40 ac.
Open Water	12 ac.
Riparian Scrub	42 ac.
- **Existing Vegetation Comments:** Following the cutoff of the oxbow in the late 1970's riparian vegetation has steadily expanded on the site. The oxbow area has gradually filled to support a dense, cottonwood riparian forest. The vegetation on the central portion of the site is reportedly impacted by relatively frequent fires. In 2002, the site reportedly had fires two fires.
- **Existing and Historical Agriculture:** The west central portion of the site was farmed for row crops until shortly after the channel relocation eliminated land access from Glenn County.
- **Vegetation Succession Projection:** Lacking restoration of the interior area, continued domination by invasive species is anticipated and no substantive change is anticipated.
- **Restoration History:** No known restoration activity has occurred on the site.
- **Analysis of Restoration Potential:** The majority of the central portion of the Unit has not reverted to natural riparian vegetation over the past 25 plus years. This may be due to a combination of the modified flow regime on the river, competition from invasive species and frequent fires on the site. The site has a good potential for restoration of riparian vegetation, especially in the west central area where Columbia soils are mapped. Other areas could be restored with vegetation suited to the soil and drainage conditions and/or control of invasive species. One important consideration is that temporary access would have to be acquired across property to the north and east to permit an efficient site preparation and planting operation. Restoration of the 165 +/- acre area should be evaluated in detail.

Special Status Species: See standard species for the Wildlife Area.

Cultural Features: No significant cultural features or recorded archaeological sites have been identified on the site.

Research and Monitoring Activities: No research or monitoring activities other than standard Department monitoring has been identified.

Acquisition:

Parcel History No.	Year	Acres
820825	1986	285.45

Funding Source:
Fund 140 – Environmental License Plate

Specific Management Issues / Concerns: Wilson Landing Road is a dead end at the oxbow lake on the east side of the Unit. The terminus is often used for drinking, shooting and dumping of trash, although this may not be directly related to the presence of the DFG property across the oxbow lake. The adjoining property managers report that these activities are a source of ongoing problems. They also indicated that there is frequent trespass across their property to access the Unit. Site inspection confirms that vehicles frequently access the Unit from the adjoining property and drive across the Unit such that a defined roadway exists. Installation of barriers and signing should be implemented to protect the Unit from such misuse. Gating and signing of the Unit to preclude unauthorized dumping and access should be implemented.

The adjoining property managers have also suggested abandonment of the westerly portion of Wilson Landing Road that connects to the oxbow and facilitates the trespass and vehicular access to the Unit. Such closure would require

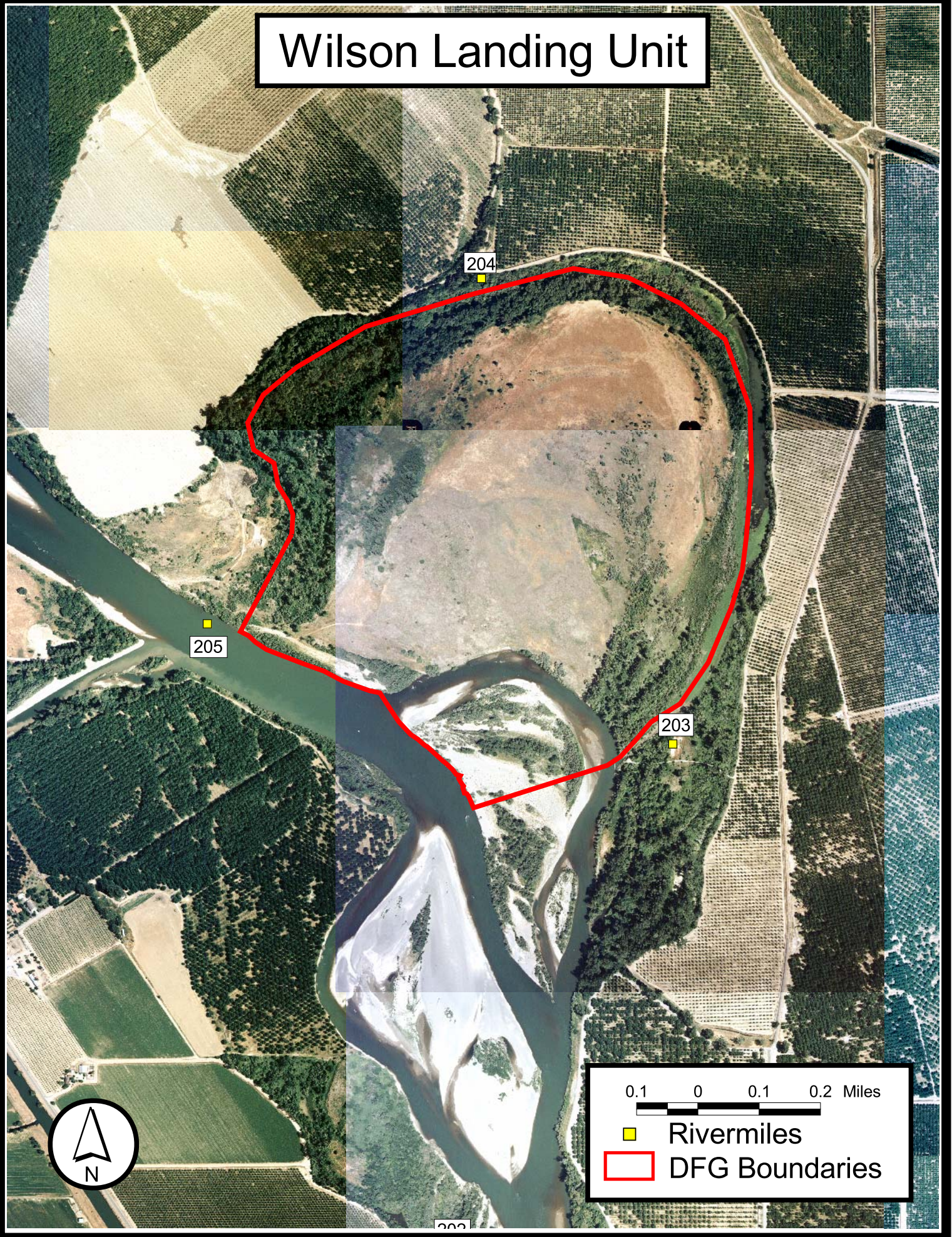
official action by Butte County. The Department should evaluate the merits of supporting a request for such abandonment.

Potential for Coordinated Management with Adjacent Properties: The Unit is located about two miles south of the Dicus Slough Unit. There are no adjacent conservation agency properties or unusual management coordination opportunities.

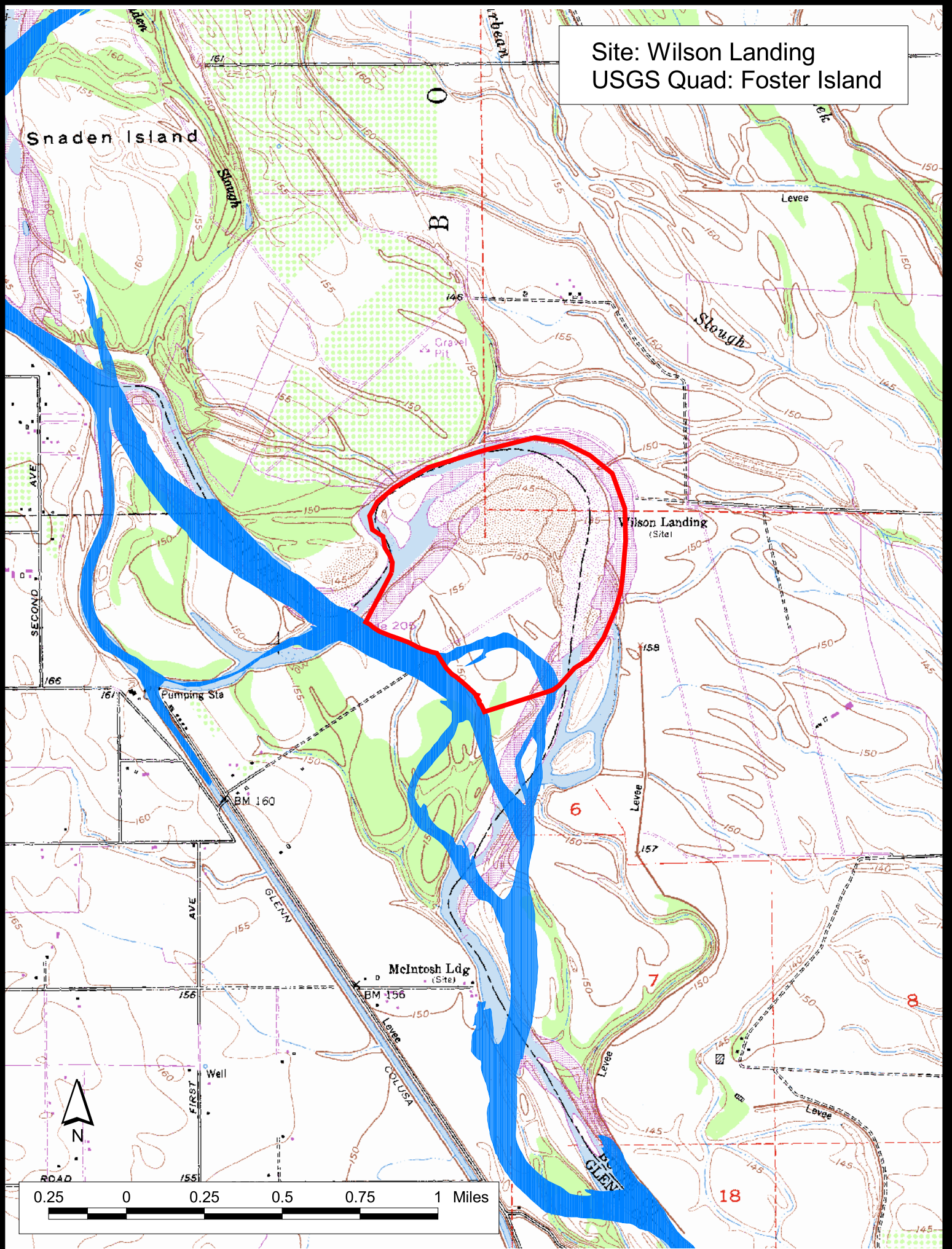
Other Reports / Data Available:

- California Department of Fish and Game, Property Inventory Form, Property # 02397, Parcel History 820825. Sacramento, California.
- Greco, Steven E., 1999. Monitoring Riparian Landscape Change and Modeling Habitat Dynamics of the Yellow-billed Cuckoo on the Sacramento River, California - A Dissertation in Ecology for the Office of Graduate Studies, University of California, Davis, Davis, California.

Wilson Landing Unit



Site: Wilson Landing
USGS Quad: Foster Island



SACRAMENTO RIVER WILDLIFE AREA - SITE INVENTORY

Unit: Pine Creek-North

Parcel History No. 820691

Inventory Date: 9/14/03

Location: River Mile: 196 to 198L

County: Glenn

Record Area: 371.67 acres

Estimated Actual Area: 331 acres

Basis: 1999 Sacramento River Aerial Atlas

- **APN(s):** 032-270-005, 280-007, 013

USGS Topo Quad: Ord Ferry

- Generalized Legal Description:	Section	Township	Range
	21,22	22N	01W

- **Survey Status:** There is no known property survey.

- **Sacramento River Conservation Area Reach (Subreach):** Red Bluff to Chico Landing Reach (Chico Landing Subreach)

- **150 Year Meander Belt Relationship:** The entire Subunit is entirely within the DWR 150 Year meander belt that defines the Inner River Zone of the Sacramento River Conservation Area.

Site Access - **River Access:** The site is accessible from the river at a point bar along the west portion of the site.

- **Public Road Access:** The Subunit has no public road access. Public Access is only from the river.

Adjoining Property:	Direction	Land Use	Ownership
	N	restored riparian	USFWS
	S	river / orchards, riparian	State / TNC, DFG
	E	riparian	DPR
	W	river / orchards	State / TNC

Physical Description: The property lies on the north and east side of the river and the shape is an irregular rectangle. The area abuts Pine Creek on the east and a levee is located along the west half of the north property line. It is primarily a low terrace area with several swales running west to east. There are no roadways or pathways on the site.

River Channel Meander History / 25 & 50-Year Projections: The river channel has moved progressively south over the area since about 1940. About one acre of the Subunit, located in the northwest corner of the parcel closest to the current river channel, is within the DWR projected 50-year erosion zone. No portion of the property is within the projected 25-year erosion zone. The potential removal of riprap on the Gunhill property to the south could substantially increase erosion on the Pine Creek – West Subunit across the river. Erosion of that Subunit would be approximately offset by accretion to the Pine Creek – North Subunit. This renewal of natural process could have a major habitat expansion benefit.

Inundation Frequency: The Subunit generally has a flood frequency of one to 2.5 years depending upon elevation. The extreme northeast corner of the site is estimated by DWR to have a five-year inundation frequency although USGS topo maps do not show elevation to justify such greater frequency.

Soils: Columbia series soils dominate the southern half of the north parcel and the northern half of the property is identified as containing Maywood Fine Sandy Loam.

Vegetation:

- **Habitat Types :** (adapted from DWR GIS / Chico St. analysis of 1999 aerial photos)

Cottonwood Forest	117 ac.
Gravel*	20 ac.
Herbaceous Layer	48 ac.
Marsh	9 ac.
Mixed Riparian Forest	95 ac.
Open Water	4 ac.
Riparian Scrub	38 ac.

*Gravel includes gravel bars, sand bars, and channel material.
- **Existing Vegetation Comments:** No unusual or significant vegetation has been identified.
- **Existing and Historical Agriculture:** The Subunit is a recently deposited area that has not been in agricultural use.
- **Vegetation Succession Projection:** Over time the site is expected remain or transition to Great Valley Mixed Riparian Forest and Great Valley Cottonwood Riparian Forest.
- **Restoration History:** No known restoration activity has occurred on the site.
- **Analysis of Restoration Potential:** The site is entirely is riparian vegetation and no restoration is required.

Special Status Species: See standard species for the Wildlife Area.

Cultural Features: No significant cultural features or recorded archaeological sites have been identified on the site.

Research and Monitoring Activities: No research or monitoring activities other than standard Department monitoring activities have been identified.

Acquisition:

Parcel History No.	Year	Record Ac.	Funding Source
820691	1986	351.67	Fund 447 Wildlife Restoration Fund (1944)

Specific Management Issues / Concerns: Pedestrian access to the Subunit may be available from the north in the future, across the adjoining Pine Creek Unit of the Sacramento River National Wildlife Refuge and properties now owned by TNC, which abut Highway 32. It is anticipated that the TNC properties are planned to be transferred to DPR (the west 20 acres adjoining the river) and the USFWS (the remainder). When such transfers are made and these adjoining properties are opened to public access, provision for land access to this Subunit should be made. Additionally, the southeast gravel bar in the southeast corner of the Subunit, known locally as "Beer Can Beach", has had major, short term impact from annual tubing events.

Potential for Coordinated Management with Adjacent Properties: The Subunit is adjacent to the Pine Creek Unit of the Sacramento River National Wildlife Refuge and a restored Reclamation Board mitigation site on the north as well as the Pine Creek Landing portion of the Bidwell- Sacramento River State Park across Pine Creek to the east. The Subunit is a part of the more than 3000 acres of conservation land in the Pine Creek / Hamilton City area. The large area offers the potential for a masterplanned habitat and recreation complex with public access and visibility from Highway 32 and county roads in both Butte and Glenn County.

Other Reports / Data Available:

- California Department of Fish and Game, Property Inventory Form, Property # 02397, Parcel History 820691. Sacramento, California.
- Greco, Steven E., 1999. Monitoring Riparian Landscape Change and Modeling Habitat Dynamics of the Yellow-billed Cuckoo on the Sacramento River, California - A Dissertation in Ecology for the Office of Graduate Studies, University of California, Davis, Davis, California.

SACRAMENTO RIVER WILDLIFE AREA - SITE INVENTORY

Unit: Pine Creek-West **Parcel History No.** 820771, 821122, 821252, 821257 **Inventory Date:** 9/14/03

Location: **River Mile:** 194 to 196.5R **County:** Butte, Glenn

Record Area: 471.12 acres

Estimated Actual Area: 463 acres

Basis: 1999 Sacramento River Aerial Atlas

- **APN(s):** 039-590-022, 023 (Butte) 032-030-006, 011, 280-011, 014(Glenn) **USGS Topo Quad:** Ord Ferry

Generalized Legal Description:	Section	Township	Range
	22, 26, 27, 43, 35	22 N	01 W

Survey Status: There is no known property survey.

Sacramento River Conservation Area Reach (Subreach): Chico Landing to Colusa Reach (Chico Landing Subreach)

150 Year Meander Belt Relationship: The entire Subunit is within the DWR 150 Year meander belt that defines the Inner River Zone of the Sacramento River Conservation Area.

Site Access

- **River Access:** The site is accessible from the river with a point bar on the northeast corner of the area.
- **Public Road Access:** The site has public road access at the east end of County Road 23, which connects to Highway 45 to the west.

Adjoining Property:	Direction	Land Use	Ownership
	N	river / riparian	State / DFG
	S	levee / orchards	TNC
	E	river / riparian	State / DFG
	W	levee / orchards	TNC

Physical Description: The Subunit is located south and west of the river and the shape is an irregular oval. A levee is located along the and south boundary and there is riprap along the north river bank. The site is generally a low to high terrace area that was leveled for agriculture with a more recently deposited low terrace and point bar in the northeast portion of the site. A swale runs along the west and south edge of the site just below the levee. Riprap is existing along the riverbank at the northwest edge of the Subunit. The site has primitive roadways across the site related to the restoration activity.

- **River Channel Meander History / 25 & 50-Year Projections:** The river has moved across the entire site over the last 100 years and substantial erosion is projected by DWR in the future 50 years. DWR erosion projections anticipate the progressive erosion of 20 percent of the east central portion of the site over the 50-year term. The potential removal of riprap on the Gunhill property to the northeast could substantially increase erosion on the north portion of the site. Because the property across the river to the north is owned by DFG, erosion of this Subunit would be approximately offset by accretion to the Pine Creek – North Subunit. This renewal of natural process could have a major habitat expansion benefit.
- **Inundation Frequency:** The Subunit has a flood frequency of one to 2.5 years depending upon elevation.
- **Soils:** The Subunit has Columbia series soils in the northern area, Gianella series within Jenny Lind Bend and riverwash in the low terrace area to the northwest.

Vegetation:

- **Habitat Types :** (adapted from DWR GIS / Chico St. analysis of 1999 aerial photos)

Blackberry Scrub	1 ac.
Cottonwood Forest	55 ac.

Gravel*	52 ac.
Herbaceous Layer	18 ac.
Marsh	7 ac.
Mixed Riparian Forest	30 ac.
Open Water	10 ac.
Riparian Scrub	49 ac.
Restored riparian forest	239 ac (planted in 2002)
*Includes gravel bars, sandbars, and channel material.	

- **Existing Vegetation Comments:** No unusual or significant vegetation has been identified.
- **Existing and Historical Agriculture:** By the early 1950's the site was farmed for row crop use and 163 acres were later planted to almond, prune and walnut orchards. When DFG acquired the property in 1991, the row crop use had been discontinued due to flooding, erosion and pest problems.
- **Vegetation Succession Projection:** With growth of the restoration planting, the site is expected to remain or transition to a Great Valley Mixed Riparian Forest with localized areas adapted to the site-specific conditions.
- **Restoration History:** Approximately 239 acres of the Subunit were restored under contract to Sacramento River Partners in 2002. The planting mix featured six distinct communities. The planting featured valley oak, sycamore and Fremont cottonwood as the dominant tree forms with a midstory of box elder, several willow species and range of understory species including coyote bush, wild rose, blackberry, mugwort and native grasses. Localized soil and drainage conditions dictated the detailed placement of plant species
- **Analysis of Restoration Potential:** Assuming successful growth of the restoration plantings, the site is considered fully restored.

Special Status Species: See standard species for the Wildlife Area.

- The joint DFG/SFWS survey recorded a Bank Swallow colony on the site in 2003.

Cultural Features: No significant cultural features or recorded archaeological sites have been identified on the site.

Research and Monitoring Activities: Identified research and monitoring activities in addition to standard DFG monitoring have included:

- Monitoring of restoration planting by River Partners in 2003 to 2006.

Acquisition:

Parcel History No.	Year	Record Ac.	Funding Source
820771	1987	118.33	Fund 140 – Environmental License Plate Fund
821252	1987	7.9	Fund 140 – Environmental License Plate Fund
821257	1991	159.34	Fund 786 - Ca. Wildlife, Coastal & Parkland Cons. Act (Prop. 70, 1988)
821122	1991	185.551	Fund 786 - Ca. Wildlife, Coastal & Parkland Cons. Act (Prop. 70, 1988)

Specific Management Issues / Concerns: The property is accessible from the terminus of Road 23 which has facilitated dumping, littering and off road vehicle use. Signing and access control is required to limit the problems.

Potential for Coordinated Management with Adjacent Properties: The Subunit is adjacent to the Capay Unit of the Sacramento River National Wildlife Refuge on the south and anticipated future riparian restoration areas owned by TNC on the west. The Subunit is a part of the more than 3000 acres of conservation land in the Pine Creek / Hamilton City area. The large area offers the potential for a master planned habitat and recreation complex with public access and visibility from Highway 32 and county roads in both Butte and Glenn County.

Other Reports / Data Available:

- California Department of Fish and Game, Property Inventory Form, Property # 02397, Parcel History 820771, 821252 821257 and 821122. Sacramento, California.
- Sacramento River Partners, 2003. Riparian Restoration Unit Plan for the Pine Creek Unit, Upper Sacramento River Wildlife Area, Glenn County, California, Draft Report. Dan Efseaff, Erin McKinney and Helen Swagerty. Chico California.

SACRAMENTO RIVER WILDLIFE AREA - SITE INVENTORY

Unit: Pine Creek-East

Parcel History No. 821149, 821150

Inventory Date: 9/14/03

Location: River Mile: 194.5 to 195.5L County: Butte, Glenn

Record Area: 218.56

Estimated Actual Area: 197 acres

Basis: 1999 Sacramento River Aerial Atlas

- **APN(s):** 039-590-007(Butte), 032-030-002 (Glenn)

USGS Topo Quad: Ord Ferry

- Generalized Legal Description:	Section	Township	Range
	27	22N	01W

- **Survey Status:** There is no known property survey.

Sacramento River Conservation Area Reach (Subreach): Red Bluff to Chico Landing (Chico Landing Subreach)

150 Year Meander Belt Relationship: The entire Subunit is within the DWR 150 Year meander belt that defines the Inner River Zone of the Sacramento River Conservation Area.

Site Access - **River Access:** The Subunit is accessible from the river with a large point bar along the south portion of the site.

- **Public Road Access:** The Subunit can be accessed from River Road across the Bidwell-Sacramento River State Park on the north side of the Park office compound, .2 miles south of Sacramento Avenue on River Road.

Adjoining Property:	Direction	Land Use	Ownership
	N	riparian, orchard	DPR, private
	S	riparian, river	DPR, State
	E	riparian	DPR
	W	river / riparian	State / DFG

Physical Description: The Subunit is located on the east side of the river and roughly an oval shape with a point extending to the northwest. It is composed of a high terrace interior surrounded by an oxbow that has permanent water along the central portion of the east boundary. A large point bar occupies the southwest portion of the site. A primitive pathway onto the site extends from the north side of the State Park office compound.

- **River Channel Meander History / 25 & 50-Year Projections:** The river has occupied all of the area over the past 100 years and the river occupied the oxbow area until some time between 1923 and 1946. DWR erosion projections anticipate erosion at both the north and south ends of the site with over half of the site progressively eroded over the 50-year term.

- **Inundation Frequency:** The Subunit has a flood frequency of one to 2.5 years depending upon elevation.

- **Soils:** The interior, high terrace area has a combination of Columbia and Horst series soils with channel materials and riverwash in the oxbow and riverwash on the point bar to the southwest.

Vegetation:

- **Habitat Types :** (adapted from DWR GIS / Chico St. analysis of 1999 aerial photos)

Cottonwood Forest	7 ac.
Gravel	30 ac.
Herbaceous Layer	14 ac.

Marsh	5 ac.
Mixed Riparian Forest	80 ac.
Riparian Scrub	17 ac
Open Water	2 ac.
Abandoned almond & walnut orchards	42 ac.

- **Existing Vegetation Comments:** The Subunit has substantial areas of invasive species including Johnson Grass, fig and Himalayan Blackberry.
- **Existing and Historical Agriculture:** The interior of the site was used for agriculture when it was physically connected to Glenn County. When acquired by DFG in 1992, it contained 42 acres of almond and walnut orchards. The orchards have not been removed.
- **Vegetation Succession Projection:** The presence of the abandoned orchard has severely retarded the recruitment of natural vegetation and will do so in the foreseeable future. The remainder of the site is expected remain or transition to Great Valley Mixed Riparian Forest.
- **Restoration History:** No known restoration activity has occurred on the site.
- **Analysis of Restoration Potential:** The former orchard area (42 acres) is a potential restoration site. It features good soils, reasonable access, practical size and inadequate natural recruitment of riparian vegetation. Restoration of the area should be evaluated in detail.

Special Status Species: See standard species for the Wildlife Area.

- The joint DFG/SFWS survey recorded a Bank Swallow colony on the site in 2003.

Cultural Features: No significant cultural features or recorded archaeological sites have been identified on the site. The site has a house in very poor condition located in the orchard area.

Research and Monitoring Activities: Identified research and monitoring activities in addition to standard DFG monitoring have included:

- CSU-Chico of vegetation and neotropical migrant survey in 2002.

Acquisition:

Parcel History No.	Year	Record Ac.	Funding Source
821149	1991	20	Fund 786 - Ca. Wildlife, Coastal & Parkland Cons. Act (Prop. 70, 1988)
821150	1991	20	Fund 786 - Ca. Wildlife, Coastal & Parkland Cons. Act (Prop. 70, 1988)

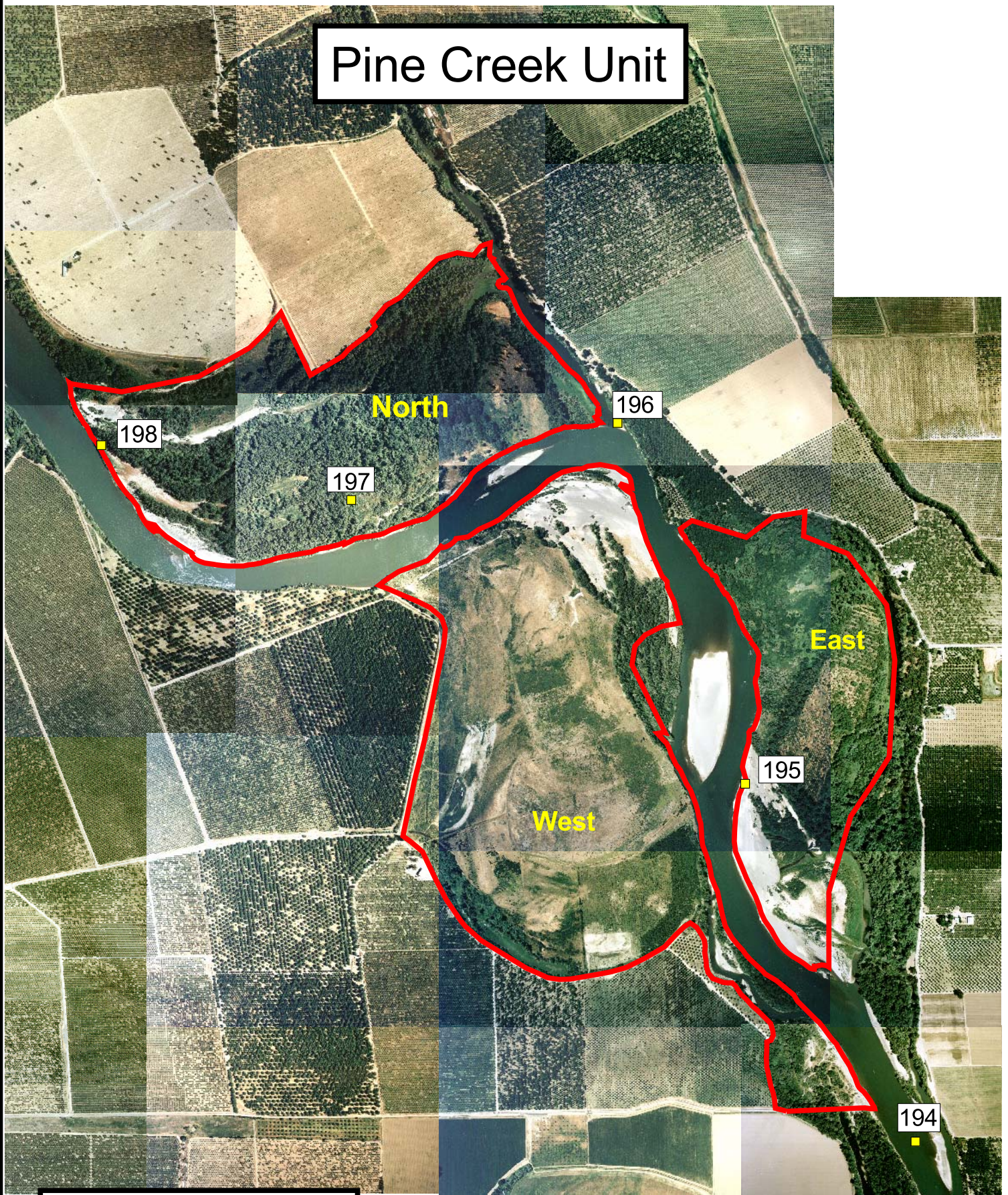
Specific Management Issues / Concerns: The Subunit is commonly accessed for hunting and other purposes across DPR property where hunting and firearms are not permitted. This conflict with DPR regulations should be addressed. The existing house in the interior of the site is in very poor condition and it should be removed.

Potential for Coordinated Management with Adjacent Properties: The Subunit is adjacent to and can be accessed across the Bidwell - Sacramento River State Park that is actively staffed and managed. Management by DPR or transfer of ownership to DPR should be evaluated. One potential issue is that the area is now used by the public for hunting and DPR does not permit hunting in the State Park. The area is also portion of the more than 3000 acres of conservation land in the Pine Creek / Hamilton City area. The large area offers the potential for a master planned habitat and recreation complex with public access and visibility from Highway 32 and county roads in both Butte and Glenn County.

Other Reports / Data Available:

- California Department of Fish and Game, Property Inventory Form, Property # 02397, Parcel History 821149 and 821150. Sacramento, California.

Pine Creek Unit



Rivermiles

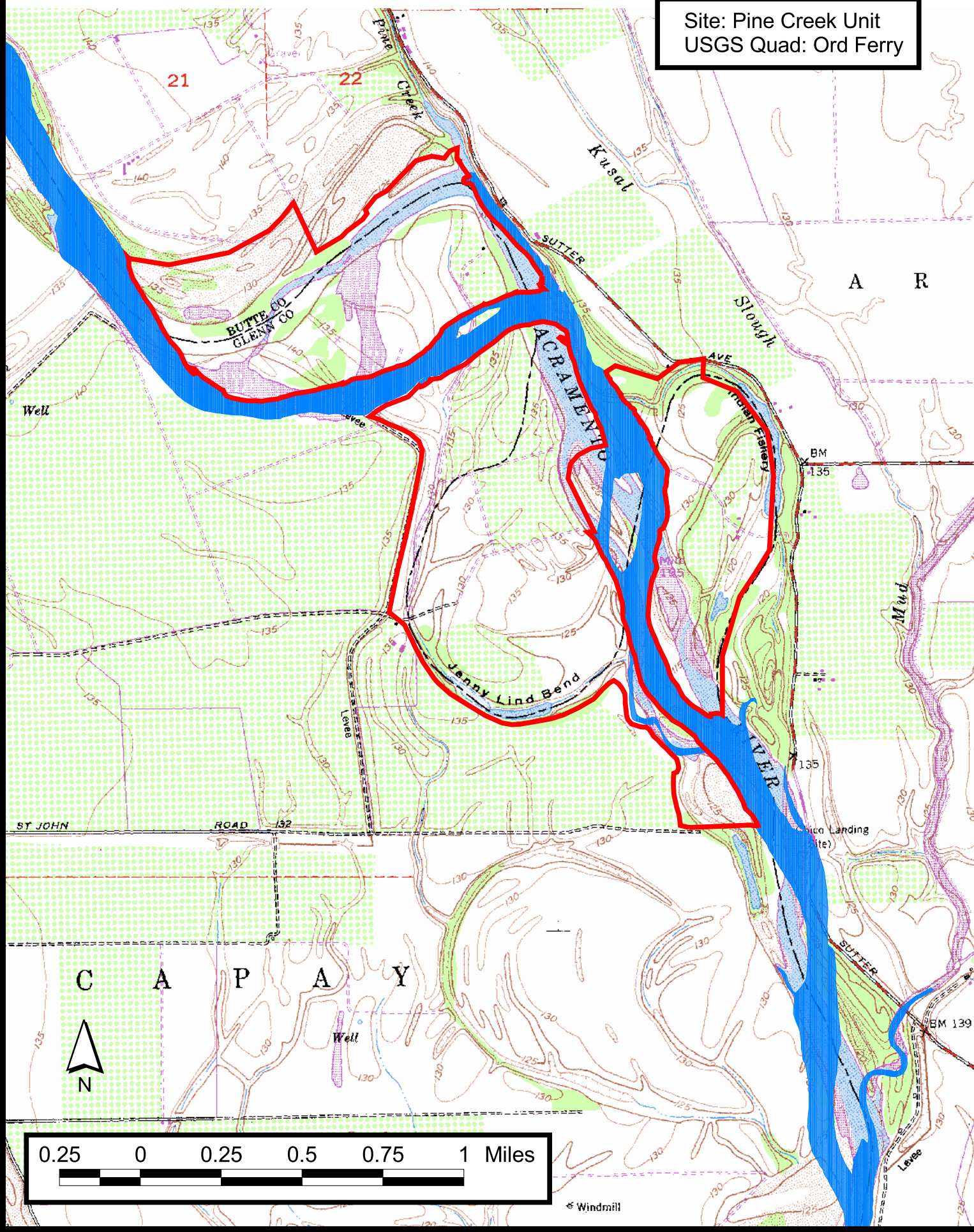


DFG Boundaries

0.25 0 0.25 0.5 Miles



Site: Pine Creek Unit
USGS Quad: Ord Ferry



SACRAMENTO RIVER WILDLIFE AREA - SITE INVENTORY

Unit: Shannon Slough**Parcel History No.:** 820413**Inventory Date:** 9/14/03**Location:** River Mile: 187R**County:** Glenn**Record Area:** 150 acres**Estimated Actual Area:** 144 acres**Basis:** 1999 Sacramento River Aerial Atlas- **APN(s):** 023-030-320, 330,340**USGS Topo Quad:** Ord Ferry

- Generalized Legal Description:	Section 06, 07	Township 21N	Range 01W
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- **Survey Status:** The Unit was surveyed to determine acreage prior to purchase, map indicates “drawn by C. Conley”, dated June, 1978.

- **Sacramento River Conservation Area Subreach:** Chico Landing to Colusa Reach (Chico Landing Subreach)

- **150 Year Meander Belt Relationship:** The entire Unit is within the 150 Year meander belt which defines the Inner River Zone of the Sacramento River Conservation Area.

- **Site Access - River Access:** The site is accessible from the river.

- **Public Road Access:** The site has no public road access. Legal public access is only from the river.

Adjoining Property:	Direction	Land Use	Ownership
	N	river / riparian	State / private, DWR
	S	orchards, riparian	private
	E	river / riparian	State / private
	W	riparian	DWR, private

Physical Description: The Unit has a rounded, triangular shape. It is located on the west side of the river with a private levee located just outside of the site. The site is a high terrace on the south with a swale, known as Shannon slough, running along the inside of the levee. A slough with a permanent pool of water bisects the site from northwest to southeast and a low terrace extends from the slough to an expanding point bar on the east. The southwest portion of the site has been used for small-scale gravel removal up to the present. There are no roadways or pathways on the site except for the gravel roadway on the adjacent levee for which DFG has access rights.

- **River Channel Meander History / 25 & 50-Year Projections:** The river has moved across the site over the last 70 years. DWR erosion projections anticipate the erosion of approximately the westerly 25% of the site in the next 25 years and 35% of the site over the next 50 years. Because there is a recent history of intervention to preclude such erosion along the easterly extension of Road 29, it is uncertain if such erosion will occur as projected.

- **Inundation Frequency:** The entire Unit has an inundation frequency of one year or less.

- **Soils:** The majority of the site is riverwash, gravel and other channel materials. An area of Columbia soils runs through the site in the Shannon Slough area.

- **Vegetation:**

- **Habitat Types :** (adapted from DWR GIS / Chico St. analysis of 1999 aerial photos) Herbland Cover

Cottonwood Forest	24 ac.
Gravel*	37 ac.
Mixed Riparian Forest	44 ac.
Herbaceous Layer	4 ac.
Open Water	4 ac.
Giant Reed (arundo)	10 ac.
Riparian Scrub	21 ac.

*Gravel includes gravel bars as well as channel material along side the current channel and within abandoned channels.

- **Existing Vegetation Comments:** No unusual or significant vegetation has been identified.
- **Existing and Historical Agriculture:** There is no known record of agricultural activity on the property.
- **Vegetation Succession Projection:** It is anticipated that the site will continue to transition to a Mixed Riparian Forrest.
- **Restoration History:** No known restoration activity has occurred on the site.
- **Analysis of Restoration Potential:** The southwest corner of the site has been degraded by recent gravel removal and agricultural planting. While soils are of a poor quality in the area, the need for limited restoration activity should be reviewed when the degradation activities are terminated.

Special Status Species: See standard species for the Wildlife Area.

Cultural Features: No significant cultural features or recorded archaeological sites have been identified on the site.

Research and Monitoring Activities: No research or monitoring activities other than standard Department monitoring have been identified.

Acquisition:

Parcel History No.	Year	Record Ac.	Funding Source
820413	1978	150.0	Fund 733 – Beach, Park, Recreation and Historical Facilities Fund (1974)

Specific Management Issues / Concerns: Questions regarding the public access rights to the Unit need to be resolved. The removal of gravel by the adjacent landowner for levee and access road maintenance and the planting of adjacent small areas should be reviewed and resolved.

Potential for Coordinated Management with Adjacent Properties: Across the river to the north is a large property owned by DWR/Sacramento and San Joaquin Drainage District. Approximately .2 mile to the South is the Jacinto Unit of the Sacramento River National Wildlife Refuge. Up and down the river there are disconnected areas of public and private riparian habitat and no unusual potential for coordinated management of these habitat areas exists.

Other Reports / Data Available:

- California Department of Fish and Game, Property Inventory Form, Property # 02397, Parcel History 820413. Sacramento, California.

Shannon Slough Unit

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186

American Aerial Surveys Inc. Zeiss Tri
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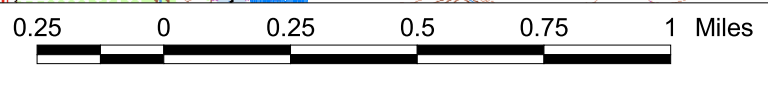
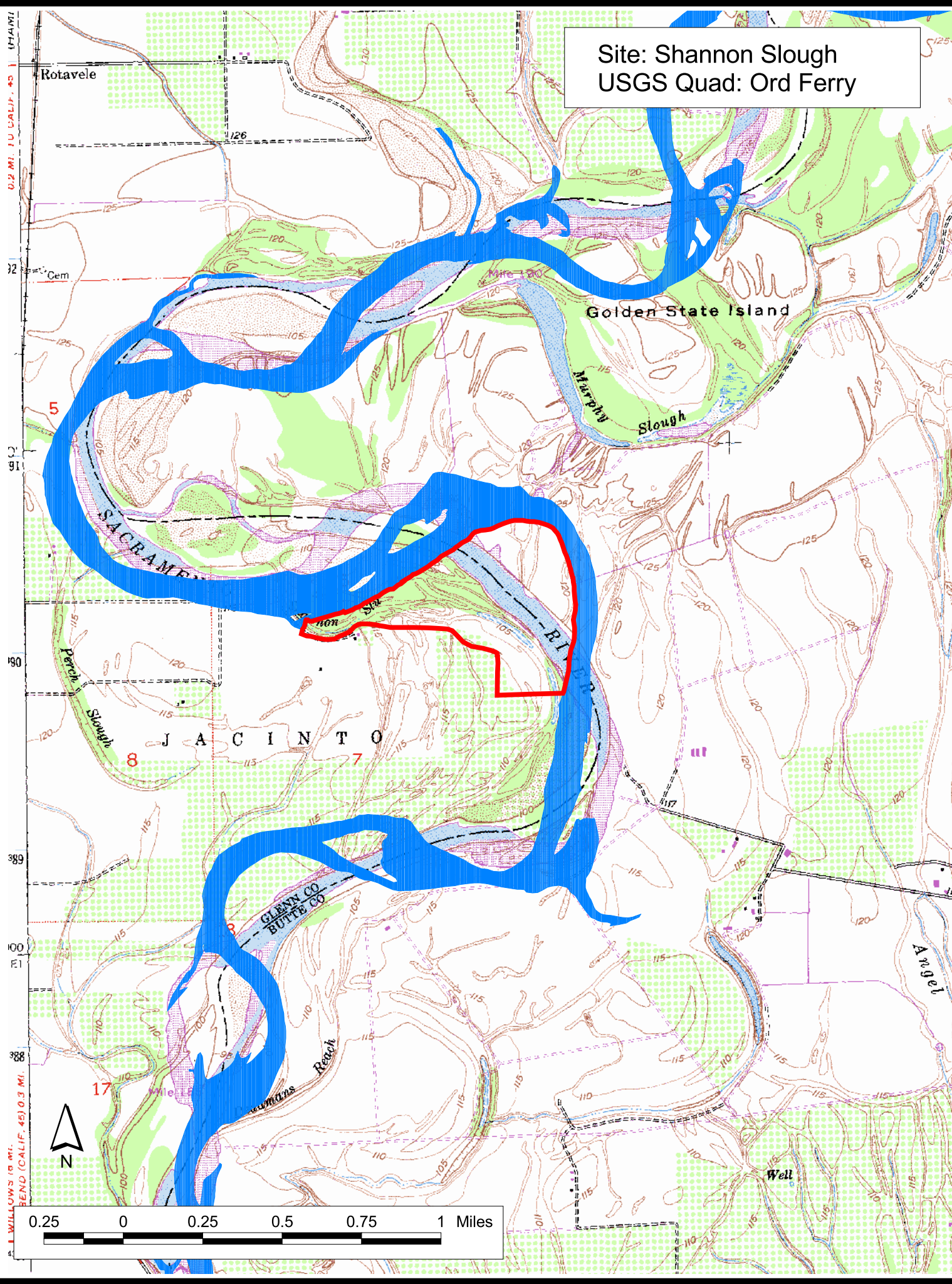
Rivermiles



DFG Boundaries



Site: Shannon Slough
USGS Quad: Ord Ferry



SACRAMENTO RIVER WILDLIFE AREA - SITE INVENTORY

Unit: Ord Bend**Parcel History No.:** 821107**Inventory Date:** 9/14/03**Location: River Mile:** 183R**County:** Glenn**Record Area:** 112.18 acres**Estimated Actual Area:** 136 acres**Basis:** 1999 Sacramento River Aerial Atlas

- **APN(s):** 019-310-020

USGS Topo Quad: Llano Seco

- **Generalized Legal Description:**

Section	Township	Range
04,05	20N	01W

- **Survey Status:** The Unit was surveyed by Roger L. Ackerman, LS 4495, for the USFWS dated March, 1991.

- **Sacramento River Conservation Area Subreach:** Chico Landing to Colusa Reach (Beehive Bend Subreach)

- **150 Year Meander Belt Relationship:** The entire Unit is within the 150 Year meander belt which defines the Inner River Zone of the Sacramento River Conservation Area.

- **Site Access - River Access:** The site is accessible from the river.

- **Public Road Access:** The site has no public road access. Legal public access is only from the river.

Adjoining Property:	Direction	Land Use	Ownership
	N	river / gravel bar	State / private
	S	river / riparian	State / private
	E	river / riparian	State / private
	W	riparian	USFWS, private

Physical Description: The Unit has a rounded, triangular shape irregular shape located on the west side of the river. The site is a low terrace with an expanding point bar on the east. A shallow overflow channel runs along the west edge of the site. There are no roadways or pathways on the site.

- **River Channel Meander History / 25 & 50-Year Projections:** The river has moved across the site over the last 70 years. DWR erosion projections do not anticipate any further erosion of the Unit in the next 25 or 50 years. The river channel is projected to continue its easterly movement and with the site is continuing to expand to the southeast.

- **Inundation Frequency:** The entire Unit has an inundation frequency of one year or less.

- **Soils:** The Unit is composed of riverwash, gravel and other channel materials.

Vegetation:

- **Habitat Types :** (adapted from DWR GIS / Chico St. analysis of 1999 aerial photos)

Cottonwood Forest	40 ac.
Gravel*	57 ac.
Herbland Cover	37 ac.
Marsh	1 ac.
Mixed Riparian Forest	1 ac.

*Gravel includes gravel bars as well as channel material along side the current channel and within abandoned channels.

- **Existing Vegetation Comments:** No unusual or significant vegetation has been identified.
- **Existing and Historical Agriculture:** There is no known record of agricultural activity on the property.
- **Vegetation Succession Projection:** The site is projected to remain in approximately its current condition due to the poor soil quality and its low lying nature which accommodates frequent scouring.
- **Restoration History:** No known restoration activity has occurred on the site.
- **Analysis of Restoration Potential:** There is a substantial open area in the west central portion of the subunit, which is dominated by invasive species; star thistle, pepperweed, arunda and tamarisk with very limited recruitment of willows and elderberry. Given that the soils in the area are dominated by riverwash, a physical and chemical eradication program for nonnative invasives should be considered to facilitate recruitment of natural species of greater habitat value.

Special Status Species: See standard species for the Wildlife Area.

Cultural Features: No significant cultural features or recorded archaeological sites have been identified on the site.

Research and Monitoring Activities: No research or monitoring activities other than standard Department monitoring have been identified.

Acquisition:

Parcel History No.	Year	Record Ac.	Funding Source
821107	1991	88.33	Fund 786 - Ca. Wildlife, Coastal & Parkland Cons. Act (Prop. 70, 1988)

Specific Management Issues / Concerns: The Unit is reportedly accessed frequently from the river due to its close proximity to the Ord Bend boat ramp but, no signs of vehicular access or degradation are visible. No specific management issues or concerns have been identified.

Potential for Coordinated Management with Adjacent Properties: The Unit adjoins the South Ord Unit of the Sacramento River National Wildlife Refuge to the west. To the north .7 miles is the Ord Bend Unit of the Refuge and the Jacinto Unit of the Wildlife Area is 1.1 miles to the south. The potential for closely coordinated or combined management with the adjacent South Ord Unit should be evaluated.

Other Reports / Data Available:

- California Department of Fish and Game, Property Inventory Form, Property # 02397, Parcel History 821107. Sacramento, California.

Ord Bend Unit

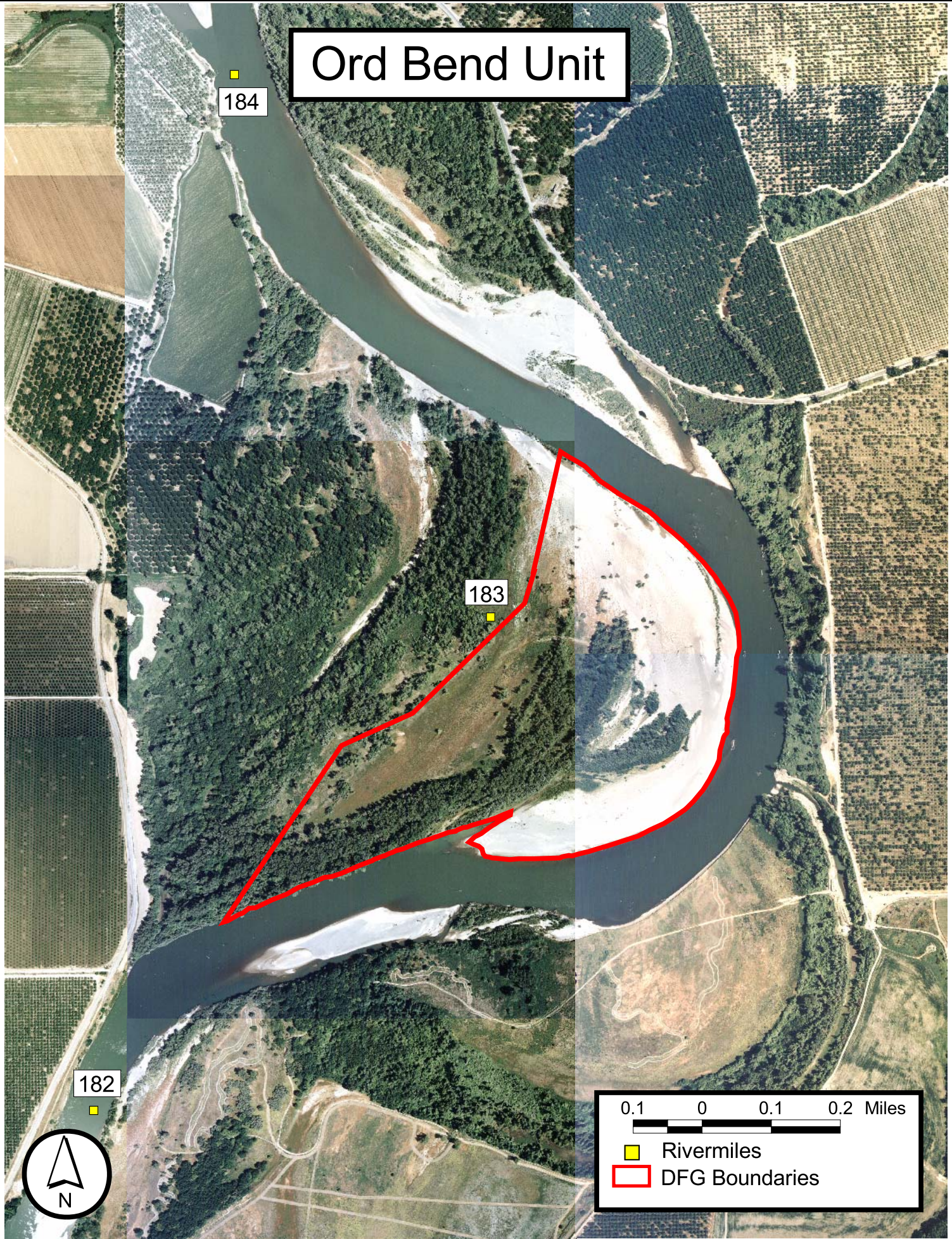
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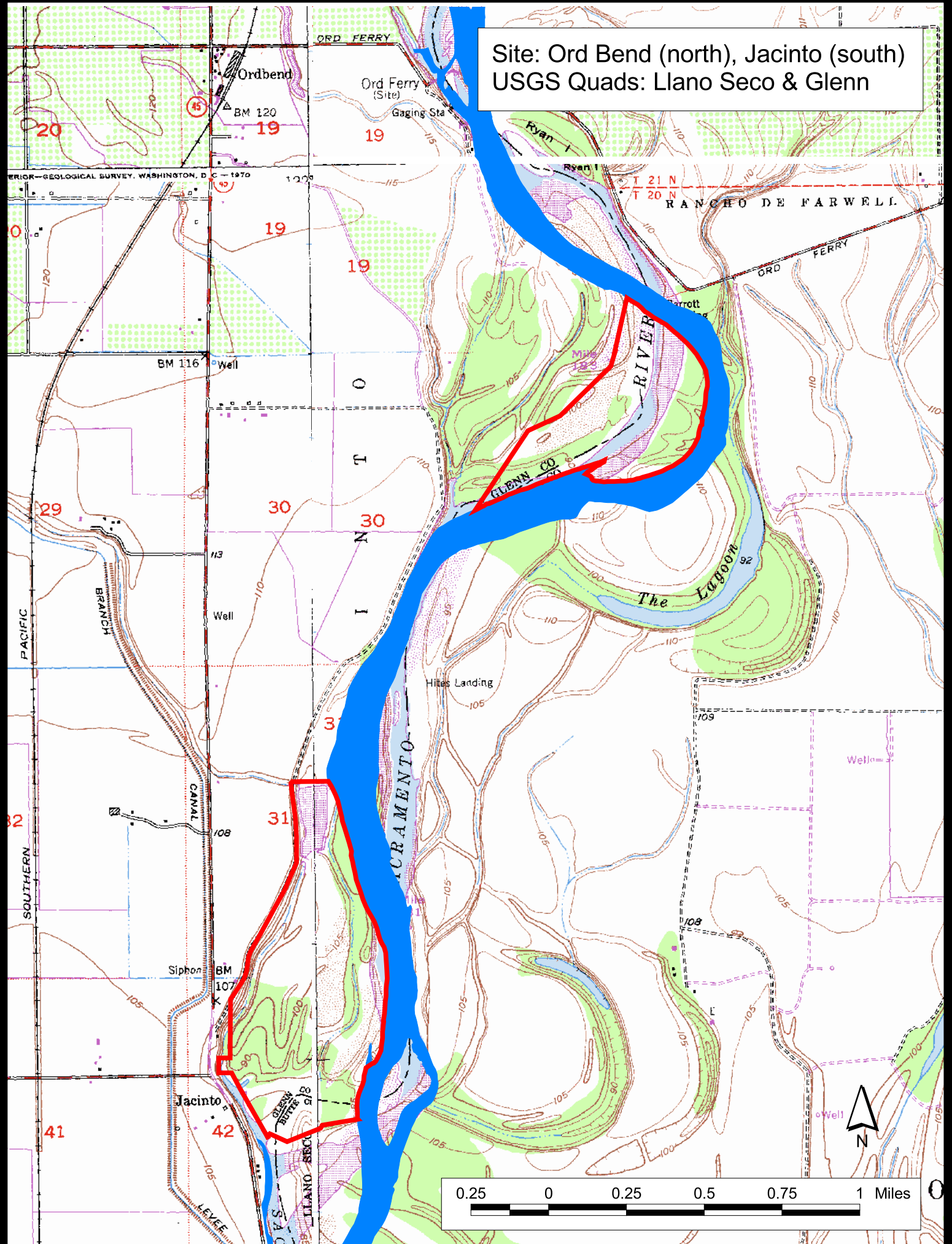
182

0.1 0 0.1 0.2 Miles

Rivermiles
DFG Boundaries



Site: Ord Bend (north), Jacinto (south)
USGS Quads: Llano Seco & Glenn



SACRAMENTO RIVER WILDLIFE AREA - SITE INVENTORY

Unit: Jacinto

Parcel History No.: 820401, 920919

Inventory Date: 9/14/03

Location: River Mile: 180 to 181R County: Glenn

Record Area: 282.96 acres

Estimated Actual Area: 242 acres

Basis: 1999 Sacramento River Aerial Atlas

- **APN(s):** 016-030-025,026, 040-028,035

USGS Topo Quad: Llano Seco, Glenn

- Generalized Legal Description:	Section	Township	Range
	31, 42	T20N	R1W

- **Survey Status:** There is no known property survey.

- **Sacramento River Conservation Area Subreach:** Chico Landing to Colusa Reach (Beehive Bend Subreach)

- **150 Year Meander Belt Relationship:** Essentially the entire site is within the 150 Year meander belt which defines the Inner River Zone of the Sacramento River Conservation Area.

Site Access

- **River Access:** The site is accessible from the west bank of the river at cut banks and a narrow gravel bar.
- **Public Road Access:** The site has no public road access. Legal public access is only from the river.

Adjoining Property:	Direction	Land Use	Ownership
	N	row crops	TNC
	S	riparian	USFWS
	E	river / riparian	private (USFWS easement)
	W	levee, restaurant, sf residence, orchards	private

- **Physical Description:** The site is located on the west side of the river and it is a distorted rectangular shape. It is a high terrace with a distinct channel that runs along the base of the levee. This channel appears to hold perennial water. Two smaller swales cross the site from northeast to southwest and a small point bar has expanded along the east central shoreline. A primitive roadway crosses the high terrace portion of the site.

- **River Channel Meander History / 25 & 50-Year Projections:** The river channel was adjacent to the levee through the first half of the 1900's and it has moved subsequently to the east and south. Over the last 25 years the river has eroded the northeast and southeast corners a distance of approximately .1 mile. DWR erosion projections indicate continued river movement and reduction of the property in the northeastern quadrant. Erosion of approximately 20 acres is projected in the 25-year forecast with 40 acres in the 50-year forecast.

- **Inundation Frequency:** Inundation frequency decreases across the parcel from east to west with the exception of channel and swale areas. Almost half of the parcel's total area is within the 1-year inundation frequency zone. The remaining area is projected to be inundated in the 2 to 2.5 year frequencies.

- **Soils:** Soils include Columbia series (about half of the total area), which occur, in the central and western portions of the Unit, a small strip of Zamora soils representing approximately 10% of the area along the property's western boundary and riverwash which is found along the eastern portion of the site.

Vegetation:

- **Habitat Types :** (adapted from DWR GIS / Chico St. analysis of 1999 aerial photos)

Blackberry Scrub	4 ac.
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Cottonwood Forest	35 ac.
Gravel	15 ac.
Exotics	2 ac.
Herbland Cover	3 ac.
Marsh	6 ac.
Restored riparian forest	38 ac.
Mixed Riparian Forest	130 ac.
Stream Channels/Open Water	2 ac.
Riparian Scrub	7 ac.

- **Existing Vegetation Comments:** No unusual or significant vegetation has been identified.
- **Existing and Historical Agriculture:** A portion of the site was planted to a walnut orchard in the mid 1070's and part of the site was uses for pasture. The orchard was cut down in 1993 but black walnuts sprouted from the stumps until restoration.
- **Vegetation Succession Projection:** With growth of the restoration planting, the vegetation on the site is expected to remain or transition to Great Valley Mixed Riparian Forest and Great Valley Valley Oak Riparian Forest.
- **Restoration History:** A 38-acre portion of the site was restored under contract to the Sacramento River Partners in 2000. The planting mix featured six distinct communities based on localized conditions. The planting featured valley oak, sycamore and Fremont cottonwood as the dominant tree forms with a midstory of box elder, several willows and range of understory species including coyote bush, wild rose, blackberry and elderberry. Localized soil and drainage conditions dictated the detailed placement of plant species
- **Analysis of Restoration Potential:** Assuming successful growth of the restoration plantings, the site is considered fully restored.

Special Status Species: See standard species for the Wildlife Area.

- The joint DFG/SFWS survey recorded a Bank Swallow colony on the site in 2003.

Cultural Features: No significant cultural features or recorded archaeological sites have been identified on the site.

Research and Monitoring Activities: Identified research and monitoring activities in addition to standard DFG monitoring have included:

- Monitoring of restoration planting by River Partners from 2000 to 2003
- Monitoring of owl boxes to characterize small mammal distribution, by TNC in 2003

Acquisition:

Parcel History No.	Year	Record Ac.	Funding Source:
820401	1978	183.1	Fund 733 Beach, Park, Recreational & Historical Facilities Fund (1974)
820919	1989	99.9	Fund 786 - Ca. Wildlife, Coastal & Parkland Cons. Act (Prop. 70, 1988)

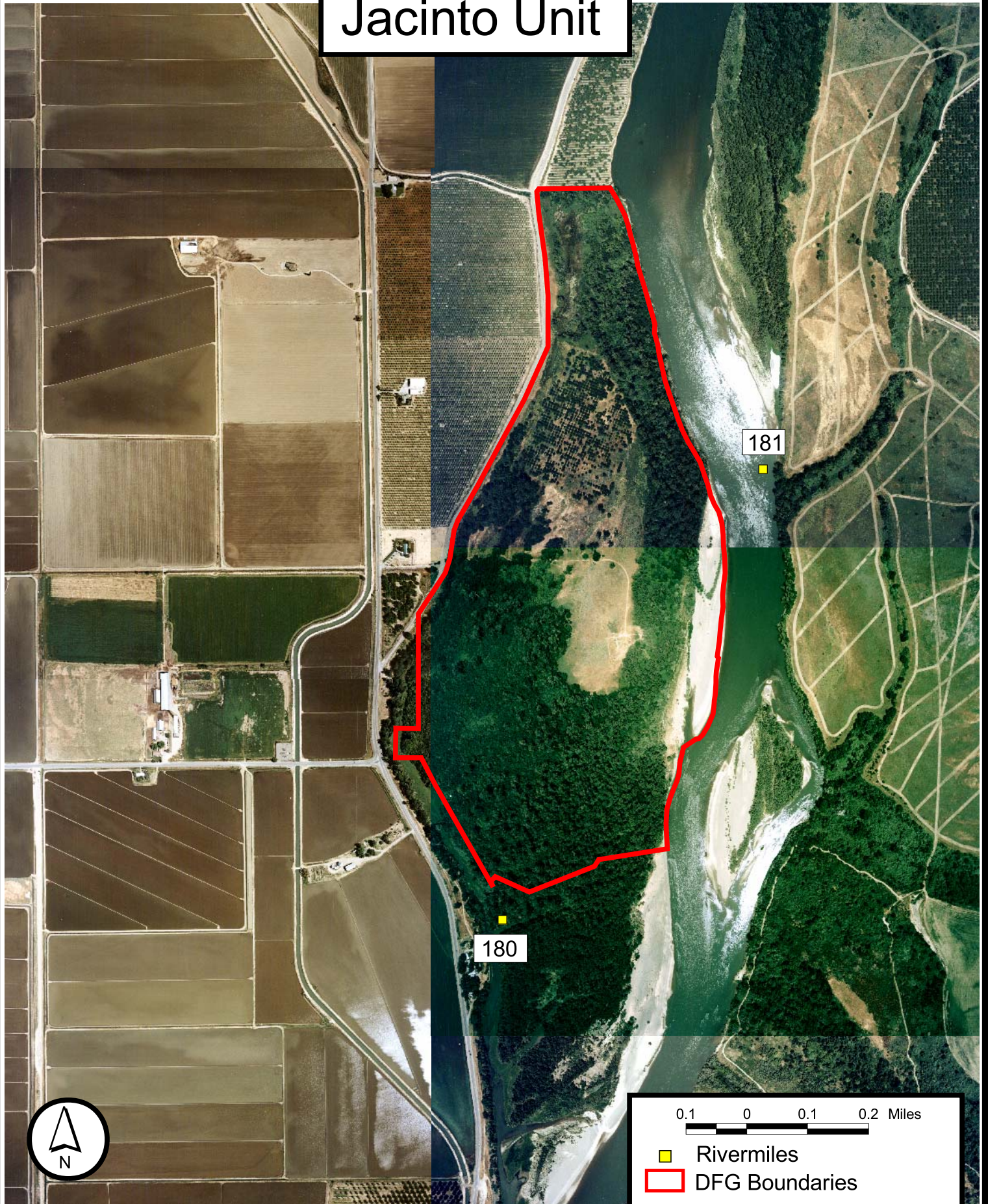
Specific Management Issues / Concerns: Two abandoned automobiles were noted on or adjacent to the site in 8/03.

Potential for Coordinated Management with Adjacent Properties: The Unit adjoins the Lano Seco Unit of the Sacramento River National Wildlife Area to the south and the Shawhi property owned by TNC to the north. It is anticipated that the Shawhi property will be restored and transferred to the Jacinto Unit. Up and down the river there are disconnected areas of public and private riparian habitat and no unusual potential for coordinated management exists.

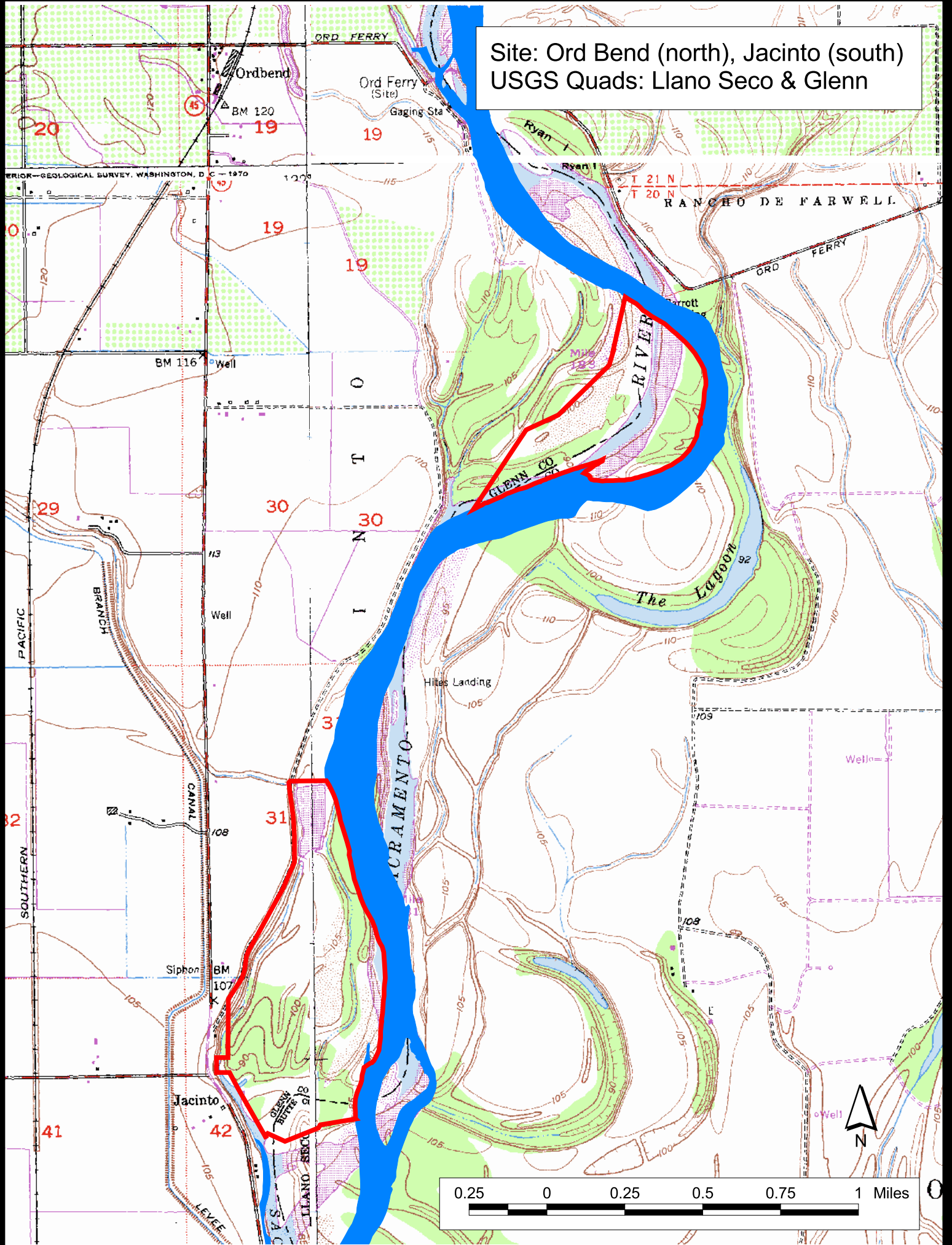
Other Reports / Data Available:

- California Department of Fish and Game, Property Inventory Form, Property # 02397, Parcel History 820401 and 820919. Sacramento, California.
- Sacramento River Partners 2003. Riparian Restoration Plan for the Jacinto Unit, Upper Sacramento River Wildlife Area, Glenn County, California. Erin McKinney, Dan Efseaff and Helen Swagerty, Chico, California.

Jacinto Unit



Site: Ord Bend (north), Jacinto (south)
USGS Quads: Llano Seco & Glenn



SACRAMENTO RIVER WILDLIFE AREA - SITE INVENTORY

Unit: Oxbow

Parcel History No.: 821148

Inventory Date: 9/1403

Location: River Mile: 175L

County: Glenn

Record Area: 94.1 acres

Estimated Actual Area: 76 acres

Basis: 1999 Sacramento River Aerial Atlas

- APN(s): 016-0520-029

USGS Topo Quad: Llano Seco

- Generalized Legal Description:	Section	Township	Range
	05	19N	01W

- Survey Status: There is no known property survey.

- Sacramento River Conservation Area Subreach: Chico Landing to Colusa Reach (Beehive Bend Subreach)

- 150 Year Meander Belt Relationship: The entire Unit is within the 150 Year meander belt which defines the Inner River Zone of the Sacramento River Conservation Area.

- Site Access - River Access: The site is accessible from the east bank of the river at a cut bank.

- Public Road Access: The site has no public road access. Public access is only from the river.

Adjoining Property:	Direction	Land Use	Ownership
	N	riparian	USFWS
	S	riparian, orchards	TNC, private
	E	riparian, orchards	USFWS, private
	W	river / gravel bar, riparian	private

Physical Description: The Unit is an irregular shape located on the east side of the river. It is a high terrace surrounded by an oxbow on three sides. There are no roadways or pathways on the site.

- River Channel Meander History / 25 & 50-Year Projections: The river has moved across the site over the last century. The DWR erosion projections do not project any further erosion of the next 25 or 50 years.

- Inundation Frequency: The site has a flood frequency of one to four years depending upon elevation.

- Soils: Approximately 18 acres of the Unit is classified as Columbia soils along the west central portion of the area and the remainder consists of riverwash and channel materials.

Vegetation:

- Habitat Types :	(adapted from DWR GIS / Chico St. analysis of 1999 aerial photos)
Cottonwood Forest	24 ac.
Herbaceous Layer	22 ac.
Mixed Riparian Forest	28 ac.
Open Water	2 ac.

- Existing Vegetation Comments: No unusual or significant vegetation has been identified.

- Existing and Historical Agriculture: There is no known record of agricultural activity on the property.

- **Vegetation Succession Projection:** No substantial change is anticipated given the poor quality of the soils in the center of the site.
- **Restoration History:** No known restoration activity has occurred on the site.
- **Analysis of Restoration Potential:** The open areas in east central portion of the site are mapped as riverwash soil type. Given that the subunit is isolated and not accessible by vehicles, restoration is not considered feasible. The site should be evaluated in detail for control of invasive species to assist the recruitment of native vegetation.

Special Status Species: See standard species for the Wildlife Area.

- The joint DFG/SFWS survey recorded a Bank Swallow colony on the site in 2003.

Cultural Features: No significant cultural features or recorded archaeological sites have been identified on the site.

Research and Monitoring Activities: No research or monitoring activities other than standard Department monitoring have been identified.

Acquisition:

Parcel History No.	Year	Record Ac.	Funding Source
821148	1991	88.33	Fund 786 - Ca. Wildlife, Coastal & Parkland Cons. Act (Prop. 70, 1988)

Specific Management Issues / Concerns: The Unit is relatively isolated, difficult to penetrate and very rarely accessed. No management issues or concerns have been identified for the Unit.

Potential for Coordinated Management with Adjacent Properties: The Unit is adjacent to the Llano Seco Unit of the Sacramento River National Wildlife Refuge on the north. To the southwest is the Hartley Island property, which is owned by TNC and it, is planned to be transferred to the USFWS. The Oxbow Unit is part of a major complex of intermixed, public conservation lands that stretch for a distance of almost five miles along the river. The area should either be managed in a coordinated manner or managed by one entity as one area.

Other Reports / Data Available:

- California Department of Fish and Game, Property Inventory Form, Property # 02397, Parcel History 821148. Sacramento, California

Oxbow Unit

176

175

173



0.1 0 0.1 0.2 Miles

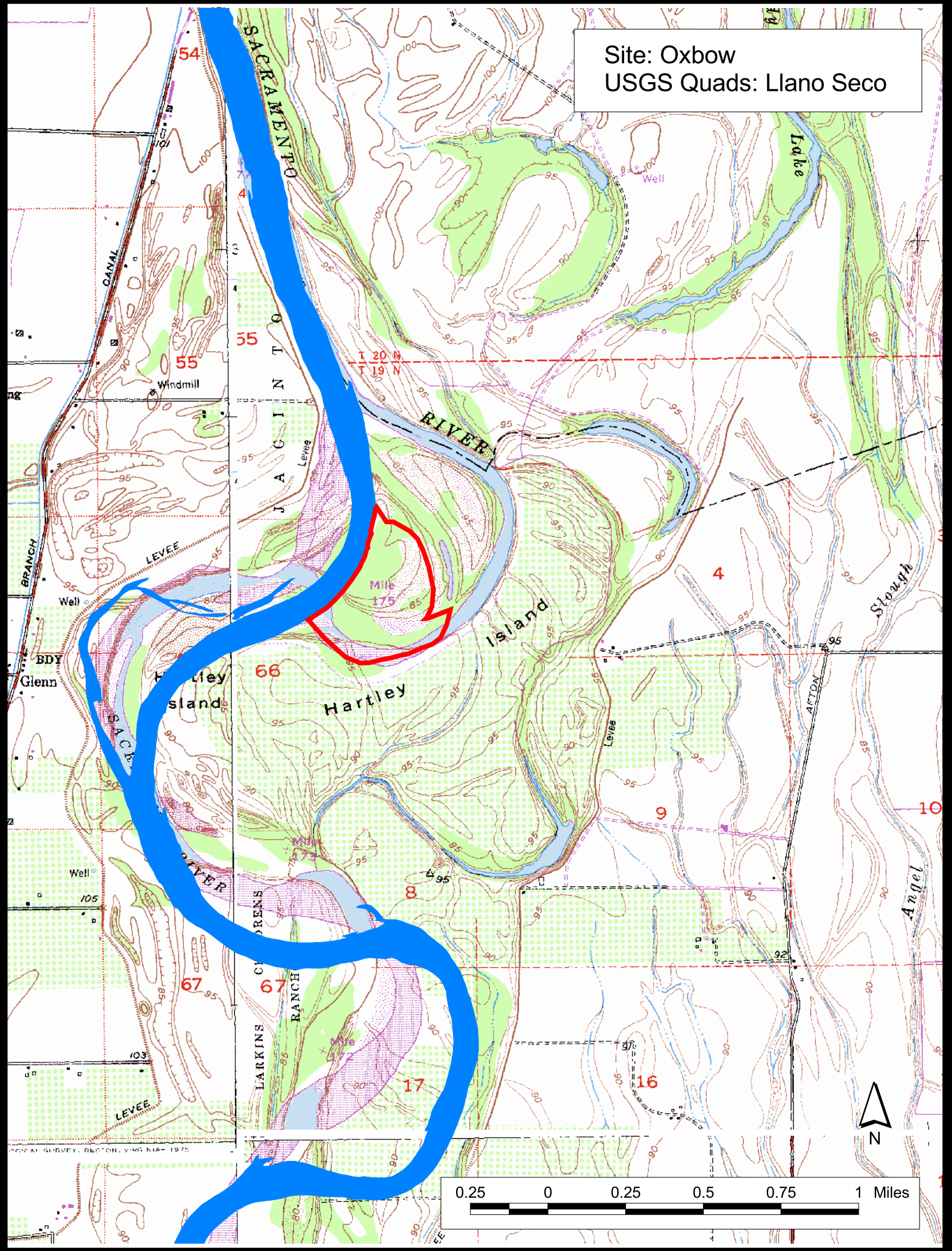


Rivermiles



DFG Boundaries

Site: Oxbow
USGS Quads: Llano Seco



SACRAMENTO RIVER WILDLIFE AREA - SITE INVENTORY

Unit: Beehive Bend

Parcel History No.: 821100, 821015

Inventory Date: 9/14/03

Location: River Mile: 170 – 171R County: Glenn

Record Area: 197.9 acres

Estimated Actual Area: 269 acres

Basis: 1999 Sacramento River Aerial Atlas

- **APN(s):** 016-050-019, 060-002, 290-007, 009, 012

USGS Topo Quad: Princeton, Butte City

- **Generalized Legal Description:**

Section	Township	Range
19,20,29,30	19N	01W

- **Survey Status:** There is no known property survey.

- **Sacramento River Conservation Area Subreach:** Chico Landing to Colusa Reach (Beehive Bend Subreach)

- **150 Year Meander Belt Relationship:** The Beehive Bend oxbow area and the gravel bar between the oxbow are within the 150 Year meander belt which defines the Inner River Zone of the Sacramento River Conservation Area.

Site Access

- **River Access:** The site is marginally accessible from the river on the gravel bar on the east bank, although access to the remainder of the site would require use of the adjoining DWR or USFWS property. In the future, it may be practically accessible by crossing the Sul Norte Unit of the Sacramento River National Wildlife Refuge if that area is opened to public access.

- **Public Road Access:** The site has no public road access. Public access is only from the river.

Adjoining Property:	Direction	Land Use	Ownership
	N	orchards	private
	S	orchards, restoration in process	private, USFWS
	E	orchards, restoration in process	private, USFWS
	W	Levee / orchards	private

Physical Description: The site is on the west side of the river and it is an irregular shape; a hollow circle on the north with a triangular area projecting to the south and a detached, narrow triangular area farther south. The circular area is composed of an oxbow lake with standing water known as Beehive Bend, and a gravel bar adjacent to the river. The triangular projection is a high terrace with a swale located adjacent to the levee on the west. The southerly triangle is the west half of a low terrace that holds permanent water, known as Razor Slough. A primitive roadway crosses the restoration area and connects to similar roadways on the USFWS property.

- **River Channel Meander History / 25 & 50-Year Projections:** The Beehive Bend oxbow area was in the river channel until about 1900 when the channel cut the neck of the oxbow and moved to the east. The remainder of the site has been outside of the channel since before that time. The DWR erosion projections predict about 5 acres of erosion at the extreme northeast corner of the site and about 20 acres in the 50-year term.

- **Inundation Frequency:** The Beehive Bend oxbow area and the gravel bar adjoining the river have a one-year flood frequency. The remaining portions of the site have a flood frequency of one to four years depending upon elevation.

- **Soils:** The majority of the soils within the Beehive Bend Subunit or about 75% of the unit's total land area consist of those in the Columbia series. There is a small amount of riverwash adjacent to the river and there are approximately 15 acres of Zamora soils are mapped in a strip along the parcel's western boundary.

Vegetation:

- **Habitat Types :** (adapted from DWR GIS / Chico St. analysis of 1999 aerial photos)

Blackberry Scrub	1 ac.
Cottonwood Forest	25 ac.
Gravel*	35 ac.
Herbland Cover	3 ac.
Marsh	3 ac
Restored riparian forest	58 ac. (planted to riparian vegetation in 2000)
Mixed Riparian Forest	76 ac.
Open Water	40 ac.
Riparian Scrub	28 ac.

*Gravel includes gravel bars as well as channel material along side the current channel and within abandoned channels.
- **Existing Vegetation Comments:** No unusual or significant vegetation has been identified.
- **Existing and Historical Agriculture:** The Beehive Bend and Razor Slough portions of the site have not been used for agriculture. Portions of the triangular area lying south of Beehive Bend were in agriculture since at least the 1950's. About 21 acres of the site were planted to prunes in the 1980's but the orchard was subsequently removed. The entire area was in row crops when it was acquired in 1991.
- **Vegetation Succession Projection:** Over time and with growth of the restoration planting, the vegetation on the site is expected to remain or transition to Great Valley Mixed Riparian Forest and Great Valley Oak Riparian Forest.
- **Restoration History:** Approximately 58 acres were restored in 2000 under contract to Sacramento River Partners. The planting featured valley oak, sycamore and Fremont cottonwood as the dominant tree forms with a midstory of box elder, Black willow and arroyo willow and range of understory species including coyote bush, wild rose and blackberry. Localized soil and drainage conditions dictated the detailed placement of plant species
- **Analysis of Restoration Potential:** Assuming successful growth of the restoration plantings, the site is considered fully restored.

Special Status Species: See standard species for the Wildlife Area.

Cultural Features: No significant cultural features or recorded archaeological sites have been identified on the site.

Research and Monitoring Activities: Identified research and monitoring activities in addition to standard DFG monitoring have included:

- Monitoring of restoration planting by River Partners from 2000 to 2003.

Acquisition:

Parcel History No.	Year	Acres	Funding Source
821015	1990	88.33	Fund 786 - Ca. Wildlife, Coastal & Parkland Cons. Act (Prop. 70, 1988)
821100	1991	109.56	Fund 786 - Ca. Wildlife, Coastal & Parkland Cons. Act (Prop. 70, 1988)

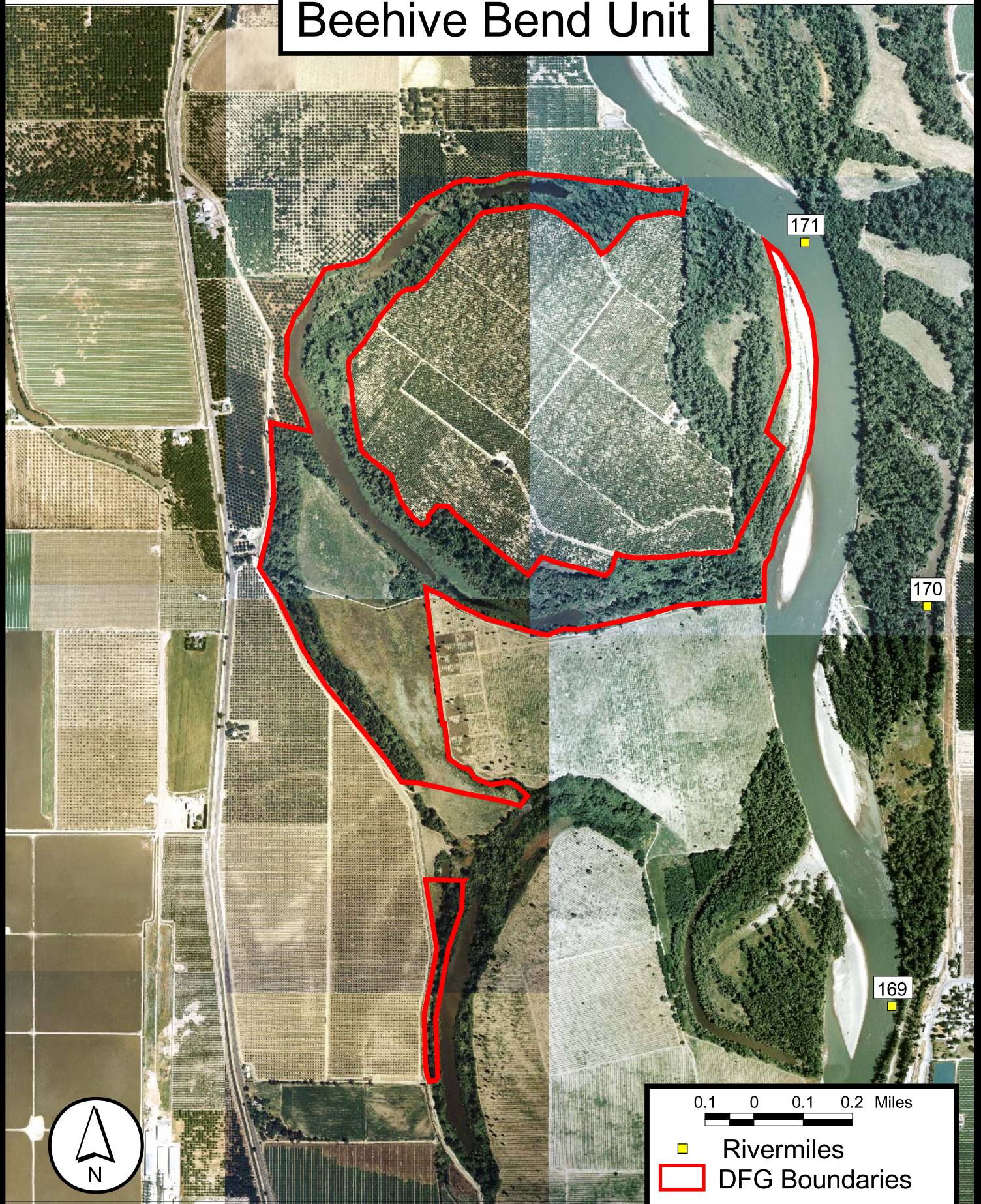
Specific Management Issues / Concerns: The Unit will have the potential for access from the river and the land if the adjoining Sul Norte Unit of the Sacramento River National Wildlife Refuge is opened to public access in the future. If the USFWS Unit is opened to public access, cross access to the Beehive Bend Unit should be permitted.

Potential for Coordinated Management with Adjacent Properties: The Unit is adjacent to the Sul Norte Unit of the Sacramento River National Wildlife Refuge on the south and east and the MBK Site 24 property owned by the Sacramento and San Joaquin Drainage District (SSJDD / State Reclamation Board) lying west of the gravel bar area adjacent to the river. Additional SSJDD property lies across the river to the east of the southerly section of Beehive Bend. The Beehive Bend Unit is part of a major complex of intermixed, public conservation lands that stretch for a distance of five miles along the river. The area should either be managed in a coordinated manner or managed by one entity as one area.

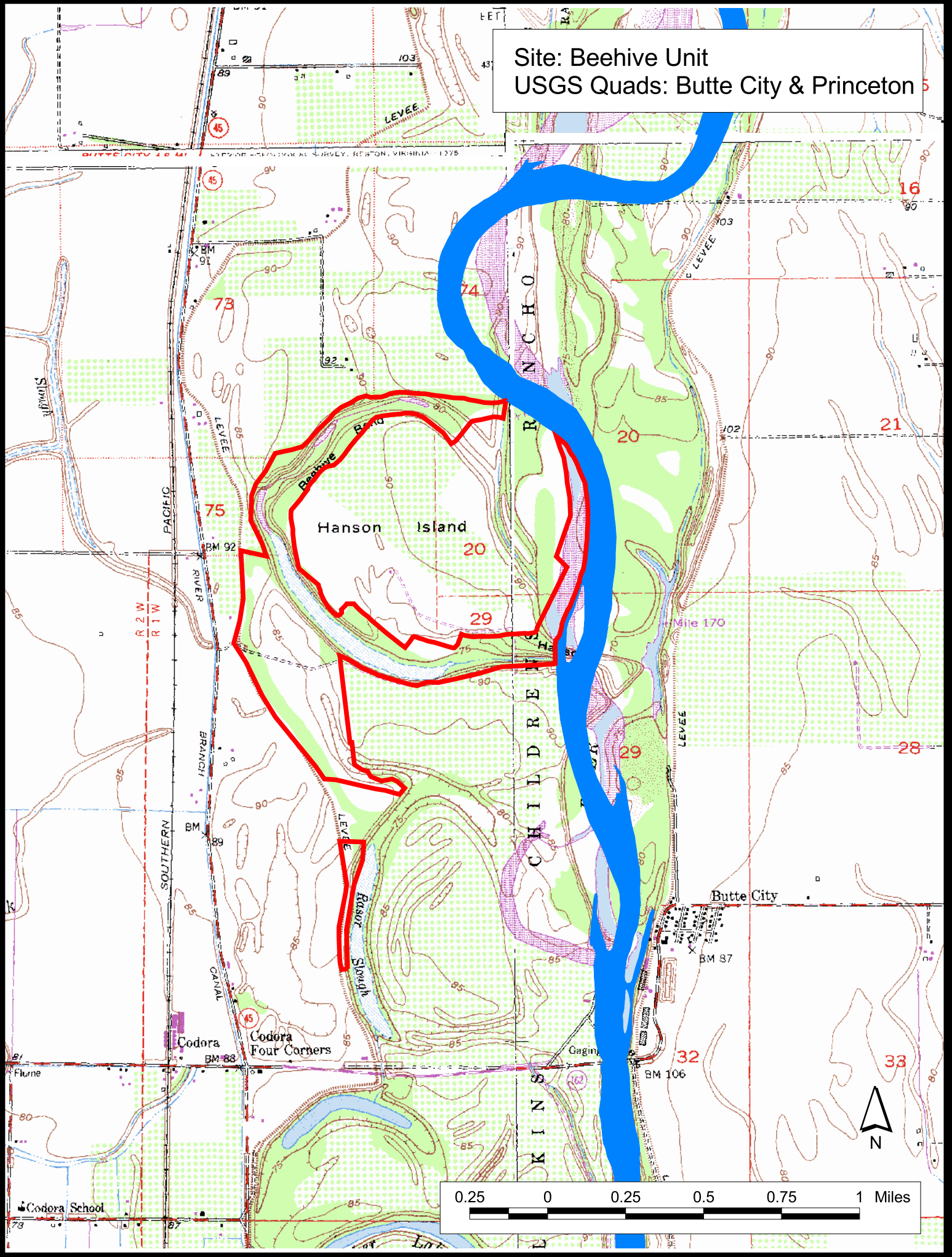
Other Reports / Data Available:

- California Department of Fish and Game, Property Inventory Form, Property # 02397, Parcel History 821015 and 821100. Sacramento, California.
- Sacramento River Partners, 1999. Riparian Restoration Plan for River Mile 169.5-R, Beehive Bend Unit, the California State Department of Fish and Game, Glenn County, California. Gregory A. Treber. Chico California.

Beehive Bend Unit



Site: Beehive Unit
USGS Quads: Butte City & Princeton



SACRAMENTO RIVER WILDLIFE AREA - SITE INVENTORY

Unit: Princeton - North **Parcel History No.:** 820202, 821058, 821356 **Inventory Date:** 9/14/03

Location: **River Mile:** 166R **County:** Glenn

Record Area: 120.1 acres

Estimated Actual Area: 86 acres.

Basis: 1999 Sacramento River Aerial Atlas

- **APN(s):** 013-140- 006, 009, 015,016

USGS Topo Quad: Princeton

- Generalized Legal Description:	Section	Township	Range
	6, 7, 8	18N	01W

- **Survey Status:** There is no known property survey

- **Sacramento River Conservation Area Subreach:** Chico Landing to Colusa Reach (Beehive Bend Subreach)

- **150 Year Meander Belt Relationship:** Approximately 90% of the Subunit is within the 150 year meander belt which defines the Inner River Zone of the Sacramento River Conservation Area. The area excluded is a narrow strip along the levee.

- **Site Access - River Access:** Subunit is accessible from the west bank of the river at cut banks.

- **Public Road Access:** The site is accessible from highway 45 via a paved turnoff, approximately 1.3 miles north of the town of Princeton. The access is referred to as the Site 21 Fishing Access.

Adjoining Property:	Direction	Land Use	Ownership
	N	riparian (planted in 2000)	USFWS
	S	riparian, gravel bar	private
	E	river / gravel bar, riparian	State / TNC
	W	levee / highway /orchard, row crops	State / private

Physical Description: The site is roughly triangular and is located on the west side of the river. It is primarily a high terrace area that is bisected by a swale that runs from northeast to southwest across the site. It includes a portion of an expanding point bar at the southeast corner of the property. A paved turnout from Highway 45 and a short, paved access road at the southwest corner of the site provides for public access to the Subunit. Glenn County maintains this access (Site 21 fishing Access) under an Operating Agreement with the State that was extended for 25 years in 2001. A primitive road extends from the parking area to the river.

- **River Channel Meander History / 25 & 50-Year Projections:** The river near the Subunit has eroded to the west over the past century removing adjoining properties to the east and giving the site a river frontage. The DWR erosion projections indicate that the bend adjoining the site will continue to extend to the west eroding about 80% of the site over the next 25 years and 90% of the site over the next 50 years. The remaining areas after 50 years are projected to be a strip along the levee and the extreme southeast corner of the site.

- **Inundation Frequency:** Inundation frequency generally increases with distance west from the river as modified by site elevation. The DWR estimated flood frequency varies from one year to five years on the highest portions of the property.

- **Soils:** The northern approximate 55% portion of the site is dominated by soils in the Columbia series with Zamora Clay Loam is found on about 15% of the parcel's land area. Riverwash and channel materials are found within the remaining 30% of the property area.

Vegetation:

- **Habitat Types :** (adapted from DWR GIS / Chico St. analysis of 1999 aerial photos)

Cottonwood Forest	3 ac.
Marsh	3 ac.
Restored riparian forest	50 ac.
Mixed Riparian Forest	30 ac.
- **Existing Vegetation Comments:** No unusual or significant vegetation has been identified.
- **Existing and Historical Agriculture:** The northwest portion of the site was in historical agricultural use that included a dairy operation, orchards and row crops. Records indicate that the agricultural use was abandoned in the 1980's.
- **Vegetation Succession Projection:** Erosion of the majority of the site is projected in the next 25 years. Except for the growth of the restored area, no major change is anticipated.
- **Restoration History:** An initial restoration project was conducted under contract to The Nature Conservancy in 1994 on the northerly 23 acres of the site, which was known as the Lohman property. The restoration incorporated a predominate mix of cottonwood, willow and elderberry with Valley oak, sycamore and Box elder in addition to various shrub species. A second restoration project under contract to the Sacramento River Partners occurred in 2000 on a 27 acre area to the south of the original restoration which is referred to as the Thomas property. The planting mix was similar to that utilized in the prior, Lohman restoration.
- **Analysis of Restoration Potential:** Assuming successful growth of the restoration plantings, the site is considered fully restored.

Special Status Species: See standard species for the Wildlife Area.

- The joint DFG/SFWS survey recorded a Bank Swallow colony on the site in 2003.

Cultural Features: No significant cultural features or recorded archaeological sites have been identified on the site. A residential home and related out buildings are located near the west boundary of the site. The home is located on a 1.5-acre parcel owned by DFG but it is subject to a life estate to the benefit of the former property owner.

Research and Monitoring Activities: Identified research and monitoring activities in addition to standard DFG monitoring have included:

- Monitoring of restoration planting by TNC from 1994 to 1997
- Monitoring of restoration planting by River Partners in 2000 to 2003
- Monitoring of owl boxes to characterize small mammal distribution, by TNC in 2003

Acquisition:

Parcel History No.	Year	Acres	Funding Source:
820202	1958	50	Fund 447- Wildlife Restoration fund (1944)
821058	1991	46.8	Fund 786 - Ca. Wildlife, Coastal & Parkland Cons. Act (Prop. 70, 1988)
821356	1994	23.3	Fund 786 - Ca. Wildlife, Coastal & Parkland Cons. Act (Prop. 70, 1988)

Specific Management Issues / Concerns: The access control gate to the public access point is occasionally opened and vehicles drive to the river in violation of Wildlife Area regulations. The pathway from the parking area to the river appears to cross adjoining property, although the crossing may be within the public trust easement.

Potential for Coordinated Management with Adjacent Properties: The site adjoins the Packer Lake Unit of the Sacramento River National Wildlife Refuge to the north and the Head Lama property owner by TNC is located to the east across the river. The USFWS also holds an option on the Zumwalt property which is located to the southeast across the river. The Subunit is part of a major complex of intermixed, public conservation lands that stretch for a distance of five miles along the river and the area should either be managed in a coordinated manner or managed by one entity as one area.

Other Reports / Data Available:

- California Department of Fish and Game, Property Inventory Form, Property # 02397, Parcel History 820202, 821058, 821356 and J00274. Sacramento, California.
- The Nature Conservancy, 1994. Lohman Restoration Unit Plan. Sacramento River Project Staff. Chico, California.
- The Sacramento River Partners, 1999. Restoration Plan, River Mile 166.5R, Thomas Unit, Department of Fish and Game. Gregory A. Treber. Chico, California.

SACRAMENTO RIVER WILDLIFE AREA - SITE INVENTORY

Unit: Princeton - East**Parcel History No.** 821093**Inventory Date:** 9/14/03**Location:** River Mile: 164L County: Colusa**Unit Area:****Record Area:** 102.3 acres**Estimated Actual Area:** 95 acres**Basis:** 1999 Sacramento River Aerial Atlas**- APN(s):** 013-016-016, 029**USGS Topo Quad:** Princeton, Butte City

- Generalized Legal Description:	Section	Township	Range
	17, 18	18N	01W

- Survey Status: There is no known property survey.**- Sacramento River Conservation Area Subreach:** Chico Landing to Colusa Reach (Colusa Subreach)**- 150 Year Meander Belt Relationship:** Less than 3 % of the Subunit directly adjacent to the river are within the 150 Year meander belt which defines the Inner River Zone of the Sacramento River Conservation Area.**Site Access** - **River Access:** Subunit is accessible from the east side of the river at a 20-foot high cut bank.**- Public Road Access:** The site has public road access from Road XX, which crosses the site.

Adjoining Property:	Direction	Land Use	Ownership
	N	open, riparian	USFWS
	S	riparian, orchard	private
	E	levee / row crops	private
	W	river / highway / orchard	State / private

Physical Description: The site is generally rectangular and is located on the east side of the river. It is composed of a high terrace that rises from the river at a cut bank of about 20 feet in height. A slight swale crosses the site in a crescent shape. River Road crosses the site at an angle, approximately 100 to 350 feet east of the riverbank.

- River Channel Meander History / 25 & 50-Year Projections: The river channel has been very stable adjacent to the site with no substantial movement over the past century. No portion of the site is within the 25 or 50 year erosion projection and the site area is not expected to change.**- Inundation Frequency:** Inundation frequency generally increases from east to west with the lower areas mapped at a one year frequency increasing to a four year frequency for the highest portions of the site.**- Soils:** The soils within the site are in the Columbia series.**Vegetation:**

- Habitat Types : (adapted from DWR GIS / Chico St. analysis of 1999 aerial photos)	
Restored riparian forest	44 ac. (planted to riparian vegetation in 1992)
Mixed Riparian Forest	20 ac.
Herbland Cover	2 ac.
Channels	1 ac.
Riparian Scrub	9 ac.
Riparian Scrub	19 ac.

- **Existing Vegetation Comments:** No unusual or significant vegetation has been identified.
- **Existing and Historical Agriculture:** The site accommodated agricultural activities in the past. When the site was acquired in 1991, 42 acres had been cleared for dry farming use.
- **Vegetation Succession Projection:** Over time and with growth of the restoration planting, the vegetation on the site is expected to remain or transition to a Great Valley Oak Riparian Forest.
- **Restoration History:** Approximately 44 acres were restored in 1992 under contract to The Nature Conservancy.
The planting features an “upland” mix included Valley oak, California sycamore, box elder and Oregon ash as well as Mexican elderberry and California rose. The “lowland” mix in which willows and cottonwoods predominated was applied to the swale areas. The restoration did not include the approximate 8 acres that lie west of River Road.
- **Analysis of Restoration Potential:** The site is considered fully restored.
-

Special Status Species: See standard species for the Wildlife Area.

Cultural Features: No significant cultural features or recorded archaeological sites have been identified on the site. River Road bisects the site from north to south just east of the river. The site of the former Princeton ferry is adjacent to the northwest corner of the property.

Research and Monitoring Activities: Identified research and monitoring activities in addition to standard DFG monitoring have included:

- Monitoring of restoration planting by TNC from 1992 to 1995
- Monitoring of the growth and survival of Valley oaks in the restoration planting by TNC and CSU, Chico in 2001
- Monitoring of owl boxes to characterize small mammal distribution, by TNC in 2003

Acquisition:

Parcel History No.	Year	Acres	Funding Source:
821093	1991	227.8	Fund 786 - Ca. Wildlife, Coastal & Parkland Cons. Act (Prop. 70, 1988)
*The WCB funded the acquisition of 60.7 acres of riparian habitat. The remaining 42.1 acres were funded by DWR as a mitigation for a river bank protection project.			

Specific Management Issues / Concerns: Given the accessibility of the site, dumping of materials is a potential problem. Ongoing discussions with Glenn County have focused on the potential use of a portion of the area west of River Road for a parking lot to support a new boat ramp at the former Princeton Ferry site.

Potential for Coordinated Management with Adjacent Properties: The property adjoins the Drumheller Slough Unit of the Sacramento River National Wildlife Refuge to the north. and south and across the river to the east. The Princeton-North Unit is located about one mile to the north and the Princeton-South Unit is located about one half mile to the south. Up and down the river there are disconnected areas of public and private riparian habitat and the potential for coordinated management of habitat areas with the Refuge exists.

Other Reports / Data Available:

- California Department of Fish and Game, Property Inventory Form, Property # 02397, Parcel History 821093. Sacramento, California.
- The Nature Conservancy, January 1996. Princeton Ferry Restoration Unit Completion Report 1992-1995. Chico California.

SACRAMENTO RIVER WILDLIFE AREA - SITE INVENTORY

Unit: Princeton -South

Parcel History No. 821230

Inventory Date: 9/14/03

Location: River Mile: 161.5 -163R County: Colusa

Unit Area: Record Area: 227.8 acres

Estimated Actual Area: 194 acres

Basis: 1999 Sacramento River Aerial Atlas

- **APN(s):** 012-090-023, 120,038

USGS Topo Quad: Princeton

- Generalized Legal Description:	Section	Township	Range
	19	18N	01W
	30	18N	01W

- **Survey Status:** There is no known property survey.

- **Sacramento River Conservation Area Subreach:** Chico Landing to Colusa Reach (Colusa Subreach)

- **150 Year Meander Belt Relationship:** Approximately 70 % of the parcel is within the 150 Year meander belt which defines the Inner River Zone of the Sacramento River Conservation Area. The excluded area is the west central, highest portion of the site.

- **Site Access - River Access:** Subunit is accessible from the west bank of the river at cut banks and point bars.

- **Public Road Access:** The Subunit has no public road access. Legal public access is only from the river.

Adjoining Property:	Direction	Land Use	Ownership
	N	riparian, open	private
	S	riparian	private
	E	river / riparian, gravel bar	State / private
	W	levee / orchard	private

Physical Description: The site is generally rectangular and is located on the west side of the river. It is composed of a central high terrace with low terrace areas to the north and south. A swale diagonally crossing the northeast corner of the site contains a permanent pool of water. A large gravel bar occupies the northeast corner of the site and high cut banks extend along the river to the south.

- **River Channel Meander History / 25 & 50-Year Projections:** The river has moved over and deposited the low terrace areas on the north and south portions of the Subunit over the last century. In both the DWR 25 and 50 year erosion projections, an area of about 45 acres is projected to be eroded along the outside of the bend that adjoins the central portion of the site.

- **Inundation Frequency:** Inundation frequency generally increases from east to west with the lower areas mapped at a one year frequency increasing to a four year frequency for the highest, west central portion of the site.

Soils: The soils within the Subunit consist of about 15% Moonbend series in the west central area, about 65% Vina series to the north and south, a small area of Columbia soils and the remainder in gravel and channel material

Vegetation:

- **Habitat Types:** (adapted from DWR GIS / Chico St. analysis of 1999 aerial photos)
 Restored riparian forest 34 ac. (planted to riparian vegetation in 2001)

Cottonwood Forest	81 ac.
Gravel*	20 ac.
Exotics	1 ac.
Herbland Cover	2 ac.
Marsh	1 ac.
Mixed Riparian Forest	40 ac.
Riparian Scrub	15 ac.
*Gravel includes gravel bars, sand bars, and channel material.	

- **Existing Vegetation Comments:** No unusual or significant vegetation has been identified.
- **Existing and Historical Agriculture:** The site accommodated various agricultural activities in the past. The most recent plantings were english and black walnut orchards that occupied only a small part of the property. These were removed in 2000 in preparation for restoration.
- **Vegetation Succession Projection:** Over time and with growth of the restoration planting, the vegetation on the site is expected remain or transition to a Great Valley Mixed Riparian Forest.
- **Restoration History:** Approximately 34 acres were restored in 2001 under contract to Sacramento River Partners. The planting featured valley oak, sycamore and fremont cottonwood as the dominant tree forms with a midstory of box elder, black willow and arroyo willow and range of understory species including coyote bush, wild rose and blackberry. Localized soil and drainage conditions dictated the detailed placement of plant species
- **Analysis of Restoration Potential:** Assuming successful growth of the restoration plantings, the site is considered fully restored.

Special Status Species: See standard species for the Wildlife Area.

- The joint DFG/SFWS survey recorded a Bank Swallow colony on the site in 2003.

Cultural Features: No significant cultural features or recorded archaeological sites have been identified on the site

Research and Monitoring Activities: Identified research and monitoring activities in addition to standard DFG monitoring have included:

- Monitoring of restoration planting by River Partners from 2001 to 2004
- Monitoring of owl boxes to characterize small mammal distribution, by TNC in 2003

Acquisition:

Parcel History No.	Year	Acres	Funding Source:
821230	1992	227.8	Fund 786 - Ca. Wildlife, Coastal & Parkland Cons. Act (Prop. 70,1988)

Specific Management Issues / Concerns: The site is frequently accessed by vehicles and no effective access limitation exists. Though the northern boundary is unsurveyed, it appears that unauthorized uses have included pumping of water from the pool on the site to irrigate an adjoining garden area and the access of the northeast corner of the site by vehicles for boat launching. Specific delineation and marking of the northern boundary line is needed to help resolve these issues.

Potential for Coordinated Management with Adjacent Properties: The property adjoins large privately owned riparian areas to the north and south and across the river to the east. There are no adjacent public or private ownership conservation lands although the Princeton-East Unit is located about one half mile to the north and the Stegeman Unit is located about one mile to the south. Up and down the river there are disconnected areas of public and private riparian habitat no unusual potential for coordinated management of habitat areas exists.

Other Reports / Data Available:

- California Department of Fish and Game, Property Inventory Form, Property # 02397, Parcel History 821230. Sacramento, California.
- Sacramento River Partners, 2002. Riparian Restoration Plan for the Princeton Unit, Sacramento River Wildlife Area, Colusa County, California, Draft Report. Dan Efseaff and Helen Swagerty. Chico California.

Princeton Unit

North

166

165

East

164



163

South

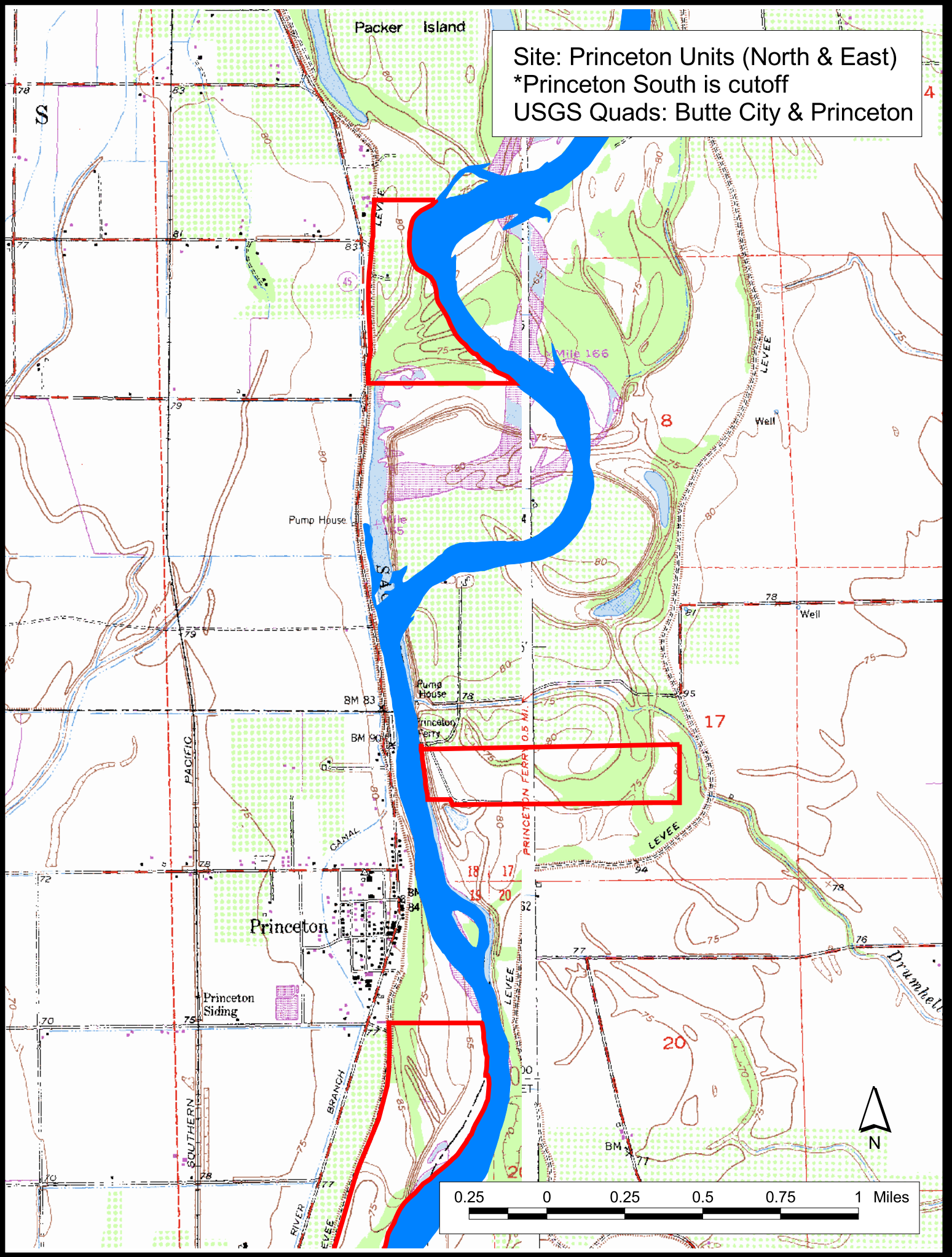
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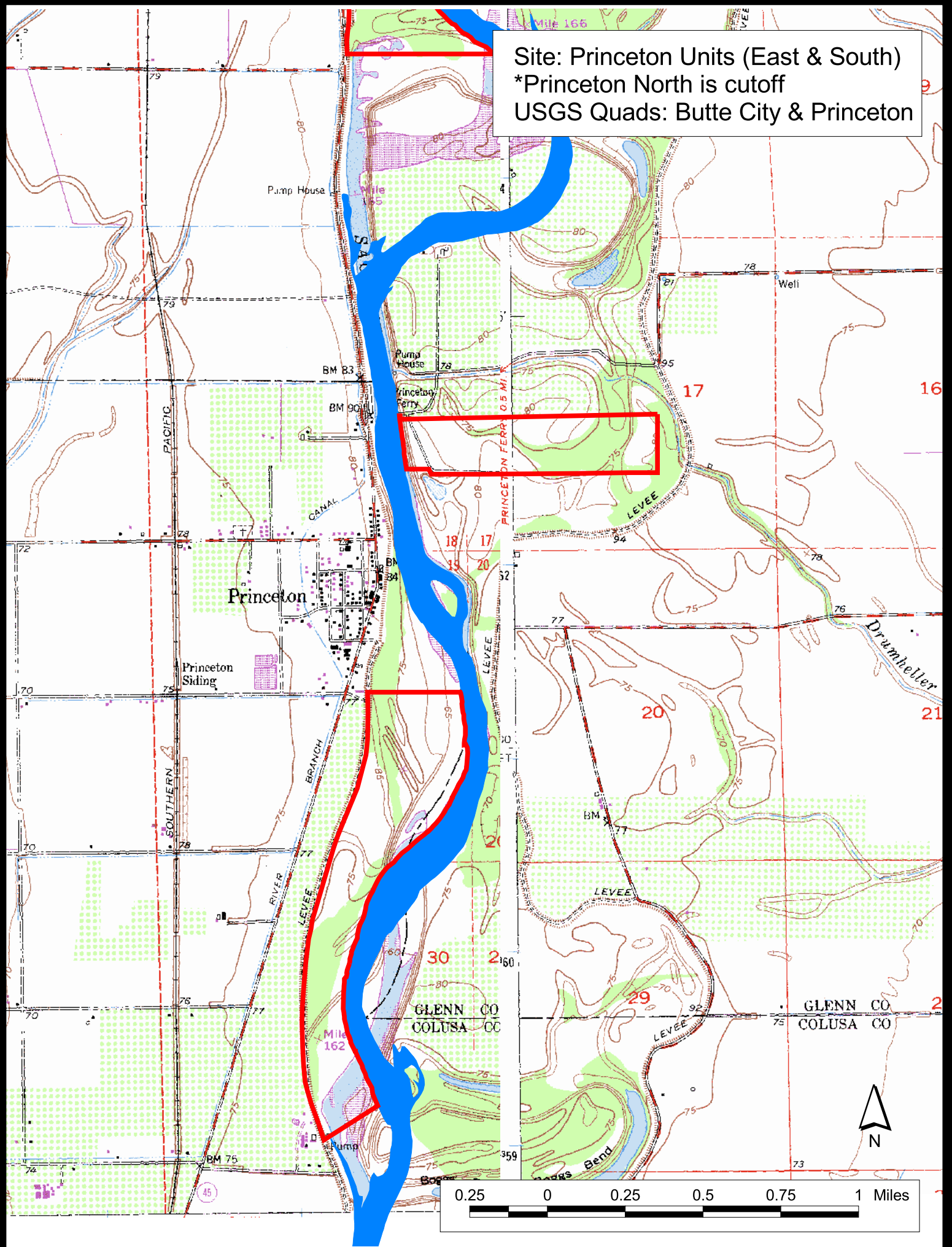
0.1 0 0.1 0.2 0.3 0.4 0.5 Miles

-  Rivermiles
-  DFG Boundaries

Site: Princeton Units (North & East)
*Princeton South is cutoff
USGS Quads: Butte City & Princeton



Site: Princeton Units (East & South)
*Princeton North is cutoff
USGS Quads: Butte City & Princeton



SACRAMENTO RIVER WILDLIFE AREA - SITE INVENTORY

Unit: Stegeman **Parcel History No.** 820962, 820976 **Inventory Date:** 9/14/03

Location: River Mile: 159 – 160R **County:** Colusa

- **Unit Area:** Record Area: 154.5 **Estimated Actual Area:** 194 acres (north parcel: 69 acres)
(south parcel: 125 acres)
Basis: 1999 Sacramento River Aerial Atlas
- **APN(s):** 012-160-064, 012-160-066 **USGS Topo Quad:** Moulton Weir
- **Generalized Legal Description:**

Section	Township	Range
06	17N	01W
01	17N	02W
- **Survey Status:** The south parcel was surveyed by Lux Engineering & Surveying Inc., Colusa, CA, dated October 28, 1994. The north parcel was included in Parcel Map No. 90-1-2, County of Colusa, dated March 1990
- **Sacramento River Conservation Area Subreach:** Chico Landing to Colusa Reach (Colusa Subreach)
- **150 Year Meander Belt Relationship:** Approximately 95% of the north parcel and about 85% of the south parcel are within the 150 Year Meander Belt which defines the Inner River Zone of the Sacramento River Conservation Area. The areas outside of the 150-Year Meander Belt are along the west boundary of the Unit.
- **Site Access - River Access:** The Subunit is accessible from the west bank of the river at a large point bar.

-Public Road Access: The Unit has no public road access. Legal public access is only from the river.

Adjoining Property:	Direction	Land Use	Ownership
	N	orchard	private
	S	riparian, river / riparian	private
	E	river / field crops, orchard	private
	W	orchard, row crops	private

Physical Description: The Unit is located on the west side of the river and it is composed of two parcels which are separated by a strip of private ownership that is about 600 feet wide. The north parcel is triangular and the south parcel has the shape of an irregular parallelogram. The west portion of the Unit is a high terrace with a shallow swale adjacent to the west boundary and the east portion is a low terrace that includes a large point bar at the southeast corner of the site. A small, former gravel pit occupies an area at the southeast corner of the north parcel. The entire site is within the levee that abuts the northerly portion of the north parcel and the southerly portion of the south parcel.

- **River Channel Meander History / 25 & 50-Year Projections:** The majority of the Unit has been within the river channel during the past century as the river has moved to the south and east. The DWR 25 and 50-Year erosion projections suggest that the river will erode to the south of the property, which will add area to the site on the south.
- **Inundation Frequency:** Within both the north and south parcels the DWR estimated flood recurrence intervals decreases from east to west with an annual frequency in the lowest areas increasing to a five year frequency in the highest areas.

- **Soils:** Along the current river channel, soils within the north parcel consist of about 3 acres of soils in the Moonbend series; 18 acres of Tujunga Loam; and 4 acres of Riverwash. Behind this riverside material are about 44 acres of Vina Loam. Within the south parcel there is about 58 acres of riverwash and old channel material on the point bar. Behind the riverbank area lies roughly 16 acres of Tujunga Loam; 42 acres of Vina Loam; and about 9 acres of soils in the Moonbend series which are adjacent to the parcel's western boundary.

Vegetation:

- **Habitat Types:** (adapted from DWR GIS, per Chico St. analysis of 1999 aerial photos)

	North Parcel	South Parcel
Cottonwood Forest	7 ac.	-
Gravel*	3 ac.	28 ac.
Herbland Cover	15 ac.	9 ac.
Mixed Riparian Forest	30 ac	48 ac.
Riparian Scrub	4 ac.	40 ac.
Abandoned walnut orchard	10ac	-

*Gravel includes gravel bars, sand bars, and channel material.

- **Existing Vegetation Comments:** No unusual or significant vegetation has been identified.
- **Existing and Historical Agriculture:** There is a 10-acre english walnut orchard in the northwest corner of the north parcel. Maintenance of the orchard was discontinued about 1990.
- **Vegetation Succession Projection:** With the exception of the english walnut orchard, the vegetation on the site is expected to remain or slowly transition to a Great Valley Mixed Riparian Forest. The transition may be limited in areas where soils are inadequate to support dense forest growth.
- **Restoration History:** No known restoration activity has occurred on the site.
- **Analysis of Restoration Potential:** The north parcel contains about 10 acres of abandoned english walnut orchard with good Vina loam soil. The area would be conducive to restoration although such a small a project may not be cost efficient. TNC has acquired the adjoining 60-acre Thousand Acre Ranch property that is planned to be restored and eventually transferred to DFG as part of this unit. As the walnut orchard area is only about 800 feet away from the TNC property along an existing primitive road it is possible that the restoration of this area may be cost efficient as part of a combined project. Such restoration should be evaluated in detail. If full restoration does not prove to be cost efficient, the existing walnut trees should be removed.

Special Status Species: See standard species for the Wildlife Area.

Cultural Features: No significant cultural features or recorded archaeological sites have been identified on the site

Research and Monitoring Activities: No research or monitoring activities other than standard Department monitoring have been identified.

Acquisition:

Parcel History No.	Year	Acres	Funding Source:
820962	1990	124.5	Fund 786 - Ca. Wildlife, Coastal & Parkland Cons. Act (Prop. 70, 1988)
820976	1990	66.2	Fund 786 - Ca. Wildlife, Coastal & Parkland Cons. Act (Prop. 70, 1988)

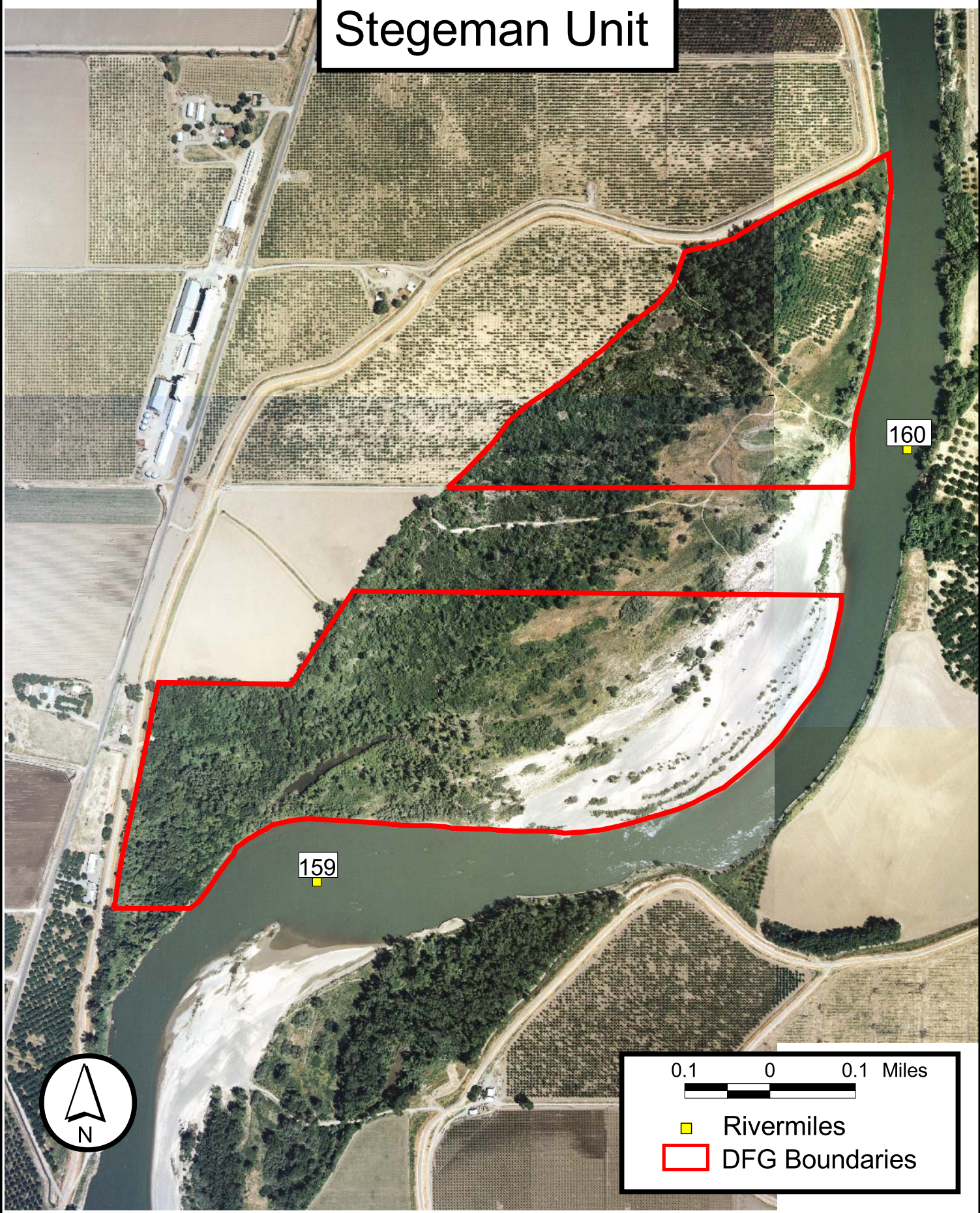
Specific Management Issues / Concerns: The primitive road across the north parcel shows signs of frequent vehicular traffic across the site and the gate controlling access was not secured.

Potential for Coordinated Management with Adjacent Properties: The Unit is located about 1 mile south of the Princeton-S. Unit and about one mile north and across the river from the Moulton-N. Unit. It is also about 2/3-mile south and across the river from the Jensen property is owned by TNC. Up and down the river there are disconnected areas of public and private riparian habitat and no unusual potential for coordinated management exists.

Other Reports / Data Available:

- California Department of Fish and Game, Property Inventory Form, Property # 02397, Parcel History 820962 and 820976. Sacramento, California.

Stegeman Unit



160

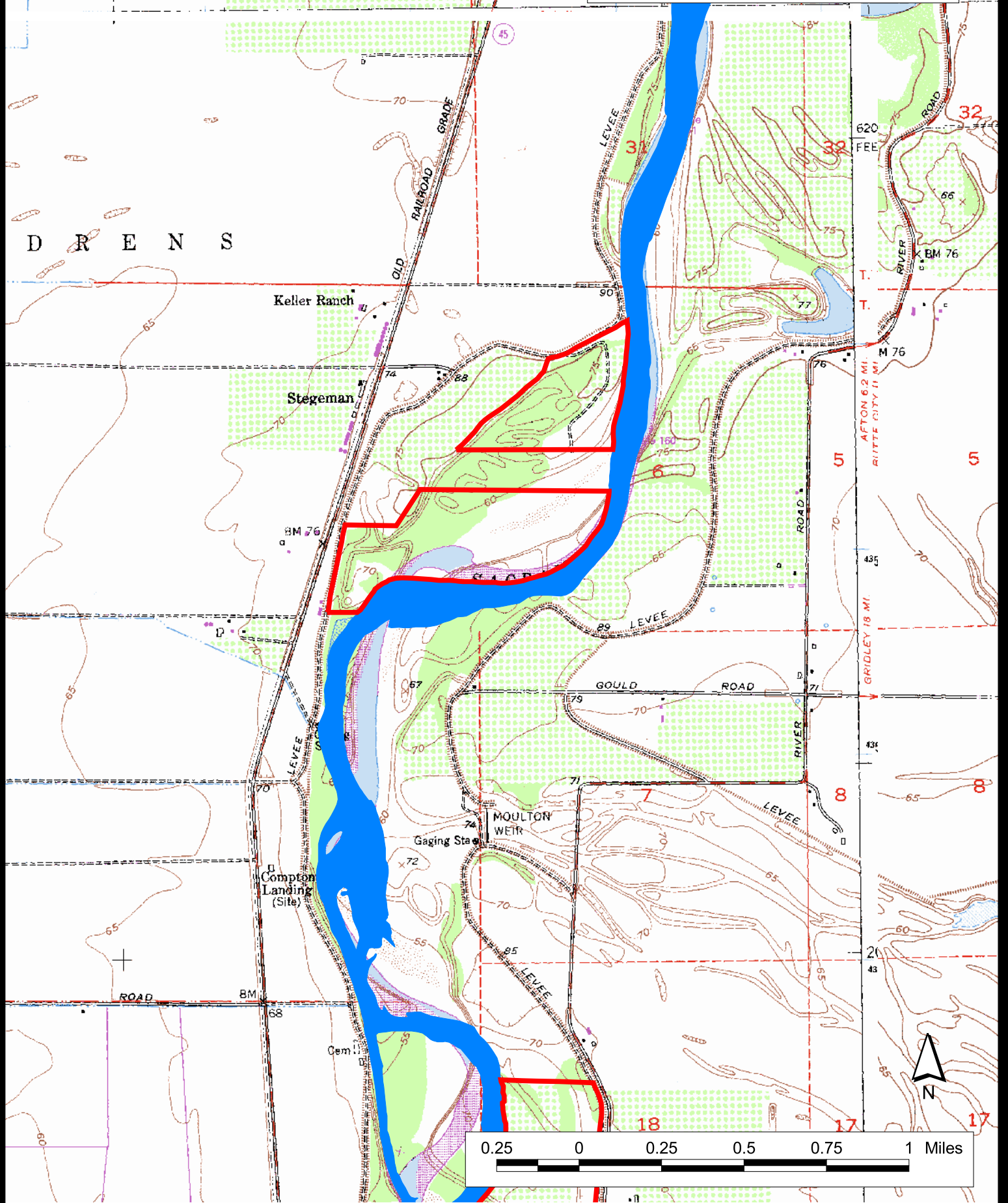
159



0.1 0 0.1 Miles

-  Rivermiles
-  DFG Boundaries

Site: Stegeman
USGS Quads: Moulton Weir



SACRAMENTO RIVER WILDLIFE AREA - SITE INVENTORY

Unit: Moulton - North**Parcel History No.** 821121**Inventory Date:** 9/14/03**Location:** River Mile: 157L**County:** Colusa**Unit Area:****Record Area:** 106 Ac.**Estimated Actual Area:** 74 Ac.**Basis:** 1999 Sacramento River Aerial Atlas**- APN(s):** 012-220-019**USGS Topo Quad:** Moulton Weir

Generalized Legal Description:	Section	Township	Range
	18	17N	01W
	13	17N	02W

- Survey Status: There is no known property survey.**- Sacramento River Conservation Area Subreach:** Chico Landing to Colusa Reach (Colusa Subreach)**- 150 Year Meander Belt Relationship:** The westerly 50% is within the 150 Year meander belt which defines the Inner River Zone of the Sacramento River Conservation Area.**- Site Access - River Access:** There is limited access from the east bank of the river at a 15-foot high cut bank.**- Public Road Access:** The Subunit has no public road access. Legal public access is only from the river.

Adjoining Property:	Direction	Land Use	Ownership
	N	row crops	private
	S	riparian, row crops	private
	E	levee / orchard	private
	W	river / gravel bar, riparian	State / private

Physical Description: The site is located on the east side of the river and it is roughly a rectangular shape. It is a high terrace that rises about 15 feet above the river at a cut bank and extends east to the project levee. A pronounced swale runs along the levee from north to south and a shallow swale crosses the site from northwest to southeast. There is a primitive roadway across the south edge of the site that supports the restoration activity.

- River Channel Meander History / 25 & 50-Year Projections: The river has moved progressively to the east reducing the size of the property from a record area of 106 acres to approximately 74 acres in 1999. The river is projected by DWR to continue to move to the east and continue to reduce the property area over the future 25 and 50-year periods. Approximately 15 acres are projected to erode in the next 25 years and an additional 20 acres is projected to erode over the next 50 years. It appears, however, that the westerly river that lies near the west levee has become the main channel of the river. If this situation continues, the eastward erosion of the site may not occur as projected.**- Inundation Frequency:** The site has a DWR estimated flood frequency of two years on the west increasing to four years on the east. Topographic mapping indicates that the swale area near the levee is likely flooded more frequently than the estimated four-year interval.**- Soils:** The entire area is classified as silt loams within the Moonbend series

Vegetation:

- **Habitat Types :** (adapted from DWR GIS / Chico St. analysis of 1999 aerial photos)
 - Restored Riparian Forest 46 ac. (planted to riparian vegetation in 2001)
 - Mixed Riparian Forest 20 ac.
 - Riparian Scrub 8 ac.
- **Existing Vegetation Comments:** No unusual or significant vegetation has been identified.
- **Existing and Historical Agriculture:** The majority of the site was a walnut orchard from the 1950's until 1991 when the trees were cut down. The stumps were removed as part of restoration in 2001.
- **Vegetation Succession Projection:** Over time and with growth of the restoration planting, the vegetation on the site is expected to remain or transition to a Great Valley Mixed Riparian Forest.
- **Restoration History:** Approximately 46 acres were restored in 2001 under contract to Sacramento River Partners. The planting features Valley Oaks and Sycamores on the higher portions of the site with a mix of willows and cottonwoods in the lower areas and random clusters of willows, cottonwoods and shrubs (including blackberries and Coyote Bush).
- **Analysis of Restoration Potential:** Assuming successful growth of the restoration plantings, the site is considered fully restored.

Special Status Species: See standard species for the Wildlife Area.

- The joint DFG/SFWS survey recorded a Bank Swallow colony on the site in 2003.

Cultural Features: No significant cultural features or recorded archaeological sites have been identified on the site

Research and Monitoring Activities: Identified research and monitoring activities in addition to standard DFG monitoring have included:

- Monitoring of restoration planting by River Partners in 2001 to 2004
- Monitoring of owl boxes to characterize small mammal distribution, by TNC in 2003

Acquisition:

Parcel History No.	Year	Acres	Funding Source:
821121	1991	106	Fund 786 - Ca. Wildlife, Coastal & Parkland Cons. Act (Prop. 70, 1988)

Specific Management Issues / Concerns: An area property owner raised concerns about deprivation of a young orchard by deer from the area around the Subunit.

Potential for Coordinated Management with Adjacent Properties: The property adjoins large privately owned riparian areas to the south and across the river to the west. There are no adjacent public or private ownership conservation lands although the Moulton–South Unit is located about one half mile to the south. Up and down the river there are disconnected areas of public and private riparian habitat and no unusual potential for coordinated management of habitat areas exists.

Other Reports / Data Available:

- California Department of Fish and Game, Property Inventory Form, Property # 02397, Parcel History 821121. Sacramento, California.
- Sacramento River Partners, 2002. Riparian Restoration Plan for the Moulton Weir Unit, Sacramento River Wildlife Area, Colusa County, California, Draft Report. Dan Efseaff and Helen Swagerty. Chico California.

SACRAMENTO RIVER WILDLIFE AREA - SITE INVENTORY

Unit: Moulton -South

Parcel History No. 820963

Inventory Date: 9/14/03

Location: River Mile: 155 - 156R

County: Colusa

Unit Area:

Record Area: 131 acres

Estimated Actual Area: 125 acres

Basis: 1999 Sacramento River Aerial Atlas

- APN(s): 012-210-028

USGS Topo Quad: Moulton Weir

- Generalized Legal Description:	Section	Township	Range
	19	17N	1W
	24	17N	2W

- Survey Status: Parcel Map No. 90-2-1, Landon Engineering and Surveying Inc, Willows, CA, April, 1990.

- Sacramento River Conservation Area Subreach: Chico Landing to Colusa Reach (Colusa Subreach)

- 150 Year Meander Belt Relationship: Approximately 95% of the Subunit is within the DWR 150 Year meander belt which defines the Inner River Zone of the Sacramento River Conservation Area. The only excluded area is the northwest corner of the site.

- Site Access - River Access: Subunit is accessible accessible from the west bank of the river at cut banks and small point bars.

- Public Road Access: The Subunit has no public road access. Legal public access is only from the river.

Adjoining Property:	Direction	Land Use	Ownership
	N	orchard, river / gravel bar	private, State/private
	S	orchard / riparian	State / private
	E	river / orchard, riparian	State / private
	W	levee / row crops, orchard	private

Physical Description: The site is located on the west side of the river and it is roughly a triangular shape. A narrow neck extends easterly inside a tight bend of the river and an overflow channel is developing in this area. The site is composed of a high terrace in the west and central portion of the site with low terraces adjoining the river in the northcentral and southeast areas. There are cut banks along the shore at inside bends with small gravel bars along the outside of the bend to the east. A small area south of the river in the north central portion of the site appears to be a former gravel pit. There are no roadways or pathways across the site.

- **River Channel Meander History / 25 & 50-Year Projections:** The channel has moved across the site over the past century. The channel north of the site has moved aggressively south and begun to erode the property. The river has also irregularly eroded and expanded the property to the south of the eastwardly extending neck. It is projected that the neck area will be eroded and breached by the river in the next 25 years and continually eroded over the next fifty years. In conjunction with that cutoff, the area below the cutoff is projected to expand to the south and east.

- **Inundation Frequency:** The site has a DWR estimated flood frequency of one and two years in the east increasing to four and five years at the northwest corner.

- **Soils:** The soils consist almost entirely of those in the Vina Loam series. Small areas of riverwash and Tujunga Loam overwash soils are found within frequently flooded portions of the parcel adjacent to the river.

Vegetation:

- **Habitat Types :** (adapted from DWR GIS / Chico St. analysis of 1999 aerial photos)

Cottonwood Forest	58 ac
Gravel	9ac
Herbland Cover	10 ac
Mixed Riparian Forest	37 ac
Riparian Scrub	11 ac
- **Existing Vegetation Comments:** No unusual or significant vegetation has been identified.
- **Existing and Historical Agriculture:** The majority of the Subunit has been within the river channel over the past century. In the past approximately five acres in the extreme north central portion of the site was part of a walnut orchard.
- **Vegetation Succession Projection:** The vegetation on the site is expected to remain or transition to either a Great Valley Cottonwood Forest or a Great Valley Mixed Riparian Forest.
- **Restoration History:** No known restoration activity has occurred on the site.
- **Analysis of Restoration Potential:** Approximately 90% of the site is in natural riparian vegetation. The portion of the site, which is not in riparian vegetation, is projected to be eroded during the next 25 years and therefore restoration is considered not to be cost effective.

Special Status Species: See standard species for the Wildlife Area.

Cultural Features: No significant cultural features or recorded archaeological sites have been identified on the site

Research and Monitoring Activities: No research or monitoring activities other than standard Department monitoring have been identified.

Acquisition:

Parcel History No.	Year	Acres	Funding Source:
820963	1989	131	Fund 786 - Ca. Wildlife, Coastal & Parkland Cons. Act (Prop. 70, 1988)

Specific Management Issues / Concerns: Pathways indicate that the site is occasionally accessed across the property to the north. If and when the river breaches the neck of land area as projected by DWR, the ownership of the land east of the cutoff should be legally reviewed and determined.

Potential for Coordinated Management with Adjacent Properties: The site lies across the river from substantial privately owned riparian areas to the northeast and southeast. Directly adjacent lands are all in agriculture. There are no adjacent public or private ownership conservation lands although the Moulton -North Unit is located about one half mile to the north. Up and down the river there are disconnected areas of both public and private riparian habitat and no unusual potential for coordinated management of these habitat areas exists.

Other Reports / Data Available:

- California Department of Fish and Game, Property Inventory Form, Property # 02397, Parcel History 820963. Sacramento, California.

Moulton Unit

157

North

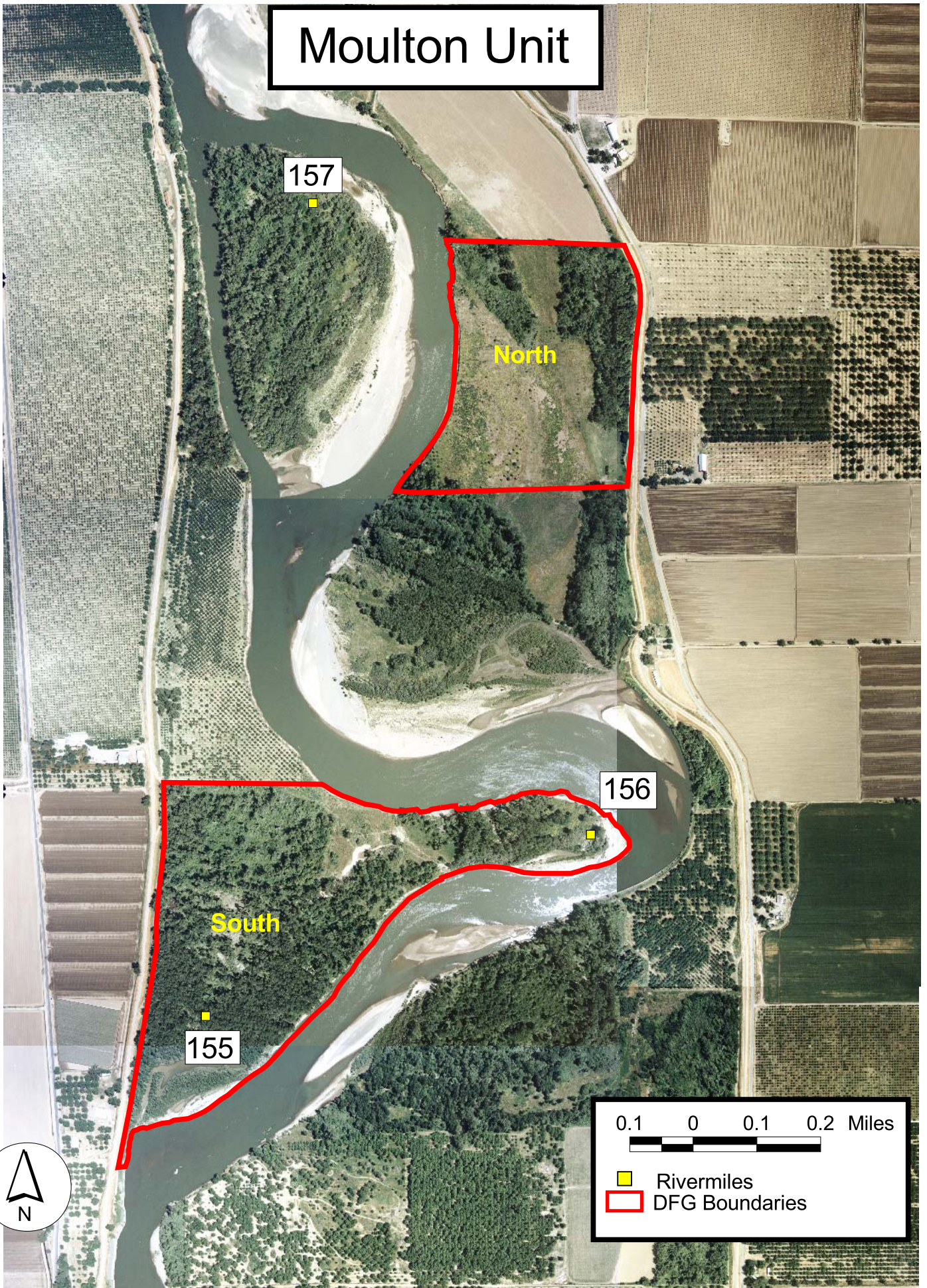
156

South

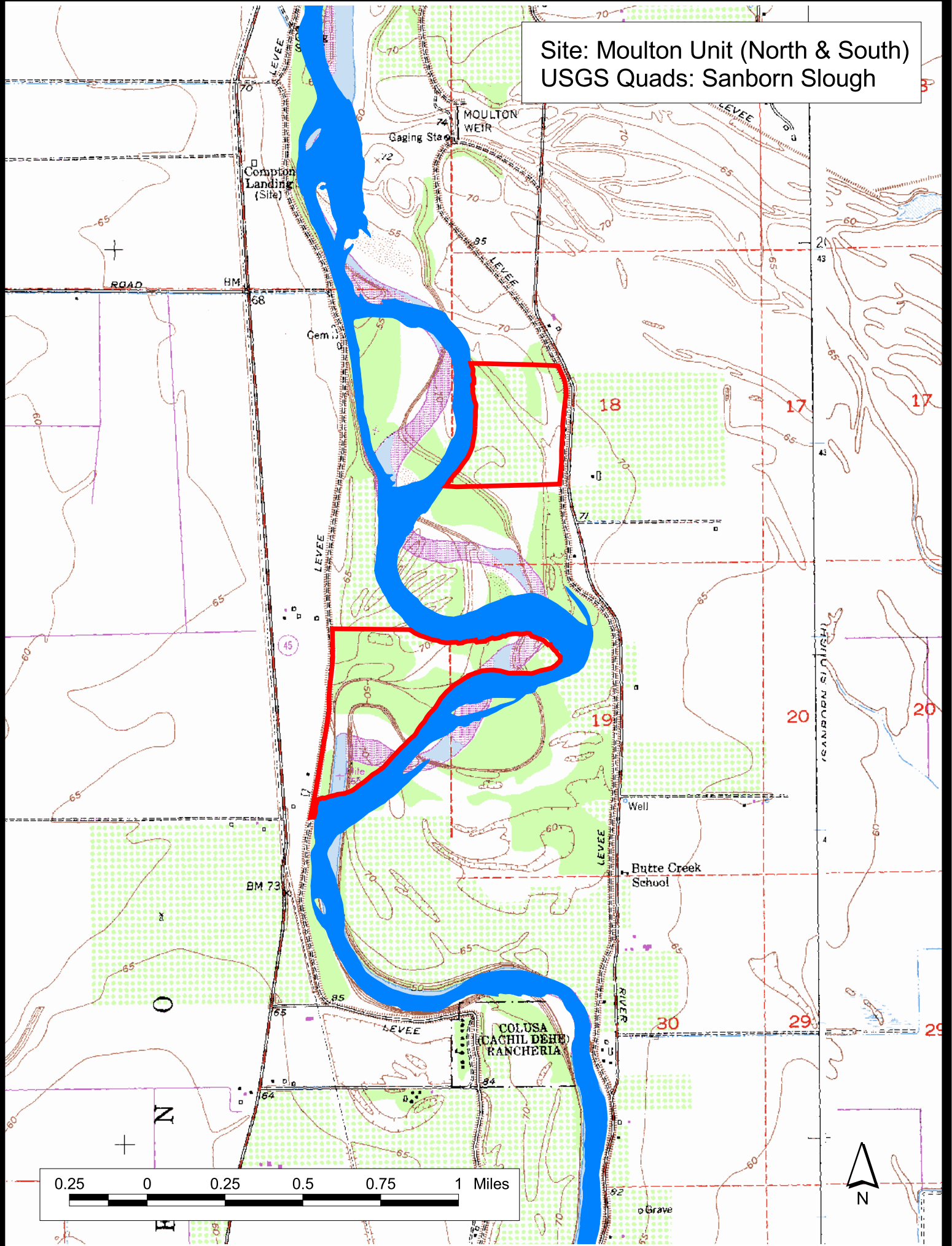
155

0.1 0 0.1 0.2 Miles

■ Rivermiles
□ DFG Boundaries



Site: Moulton Unit (North & South)
USGS Quads: Sanborn Slough



SACRAMENTO RIVER WILDLIFE AREA - SITE INVENTORY

Unit: Colusa - North**Parcel History No.** 821359**Inventory Date:** 9/14/03**Location:** **River Mile:** 146 to 147.5R **County:** Colusa**Unit Area:** **Record Area:** 118 acres**Estimated Actual Area:** 136 acres**Basis:** 1999 Sacramento River Aerial Atlas**- APN(s):** 015-070-114**USGS Topo Quad:** Colusa, Meridian

- Generalized Legal Description:	Section	Township	Range
	08,17,18	16N	01W

- Survey Status: There is no known property survey.**- Sacramento River Conservation Area Subreach:** Chico Landing to Colusa Reach (Colusa Subreach)**- 150 Year Meander Belt Relationship:** 131 acres or approximately 97% of the area is within the DWR 150 Year meander belt that defines the Inner River Zone of the Sacramento River Conservation Area.**- Site Access - River Access:** The Subunit is accessible from the west bank of the river with a large point bar occupying the east central portion of the site.**- Public Road Access:** The Subunit has no public road access. Legal public access is only from the river.

Adjoining Property:	Direction	Land Use	Ownership
	N	riparian, river	private, State
	S	orchard, row crops, river	private, State
	E	river/ orchard, riparian	private, DWR
	W	riparian, orchard	private

Physical Description:

The irregular site lies on the west side of the river. A large point bar adjacent to the river has expanded substantially over the past 25 years. The remainder of the site is primarily a high terrace with a swale running along the western third of the site. An unimproved pathway connects to the site from the adjoining property to the north, although there are no related access rights.

- River Channel Meander History / 25 & 50-Year Projections:** The river has moved progressively east along the central portion of the site and this movement is projected to continue expanding the point bar to the southeast. The river is projected to continue slowly eroding the southern portion of the site on the outside of the bend. The DWR 25-year erosion projection indicates that approximately five acres will be eroded in this area with minimal additional erosion over the 50-year term.
- Inundation Frequency:** Inundation frequency varies with elevation above the normal surface of the river. DWR estimated frequency varies from annual along the point bar and low lying slough areas to a two to four year interval on the high terrace portions of the area.
- Soils:** The majority of the site is classified as Vina Loam and the point bar area is classified as river wash.

Vegetation:

- **Habitat Types:** (adapted from DWR GIS / Chico St. analysis of 1999 aerial photos)

Cottonwood Forest	76 ac.
Abandoned walnut orchard	5 ac.
Gravel*	32 ac.
Herbland Cover	2 ac.
Marsh	3 ac.
Mixed Riparian Forest	2 ac.
Riparian Scrub	16 ac.

*Gravel includes gravel bars, sand bars, and channel material.
- **Existing Vegetation Comments:** No unusual or significant vegetation has been identified.
- **Existing and Historical Agriculture:** The majority of the Subunit has been within the river channel over the past century and consequently only a small portion of the area was planted. Approximately 5 acres in the north central portion of the Subunit are abandoned black walnut orchard that appears to have grown from rootstock.
- **Vegetation Succession Projection:** Except for the black walnut orchard area the vegetation on the site is expected to remain or transition to either a Great Valley Cottonwood Forest or a Great Valley Mixed Riparian Forest.
- **Restoration History:** No known restoration activity has occurred on the site
- **Analysis of Restoration Potential:** The relatively small area of black walnuts (5 ac.) is likely too small for a cost efficient restoration project, however, removal of the trees and rootstock would benefit natural recruitment of riparian vegetation. In order to access the orchard area for removal a new roadway would have to be cleared through approximately 700 feet of riparian forest. The viability and impacts of such roadway clearance should be evaluated against the benefits of the tree removal.

Special Status Species: See standard species for the Wildlife Area.

Cultural Features: No significant cultural features or recorded archaeological sites have been identified on the site

Research and Monitoring Activities: No research or monitoring activities other than standard Department monitoring have been identified.

Acquisition:

Parcel History No.	Year	Acres	Funding Source:
821359	1994	118	Fund 262 - Habitat Conservation Fund (Prop. 117) 58%
			Fund 447 – Wildlife Restoration Fund

Specific Management Issues / Concerns: Tracks indicate occasional ATV access onto the point bar in violation of DFG regulations, from the adjacent land to the north.

Potential for Coordinated Management with Adjacent Properties: The adjoining 81 acres to the west are subject to a conservation easement to the benefit of DFG. Removal of habitat is precluded but public access is not permitted. To the south along the river is the 264-acre Ward property, which is owned by TNC. It is anticipated that the area will be transferred to the State Department of Parks and Recreation as an expansion of the adjoining Colusa – Sacramento River State Recreation Area. Such expansion would permit legal pedestrian access to the subject site across the Recreation Area. Across the river from the Ward property is the Colusa-South Subunit. To the southeast across the river is a 52-acre island parcel owned by the Sacramento and San Joaquin Drainage District and farther east is the Colusa Weir area, which is managed by DFG for hunting purposes. Discussions with DWR/Reclamation Board should address the transfer of the island area to DFG for management as part of the Colusa Unit. This large concentration of publicly owned riparian habitat, extending four miles along the river, offers the potential for coordinated management of this relatively large area.

Other Reports / Data Available:

- California Department of Fish and Game, Property Inventory Form, Property # 02397, Parcel History 821359. Sacramento, California.

SACRAMENTO RIVER WILDLIFE AREA - SITE INVENTORY

Unit: Colusa-South

Parcel History No. 821334

Inventory Date: 9/14/03

Location: River Mile: 145L County: Colusa

- **Unit Area:** Record Area: 44.5 acres **Estimated Actual Area:** 42 Acres
Basis: 1999 Sacramento River Aerial Atlas
- **APN(s):** 015-070-112 **USGS Topo Quad:** Colusa, Meridian

Generalized Legal Description:	Section	Township	Range
	19/20	16N	01W

- **Survey Status:** A parcel map, titled Tract Map No. 82-12-3, for the Subunit was prepared in December of 1982 by Lux Engineering and Surveying Inc. of Colusa.
- **Sacramento River Conservation Area Subreach:** Chico Landing to Colusa Reach (Colusa Subreach)
- **150 Year Meander Belt Relationship:** About 95% of the Subunit is within the DWR 150 Year Meander Belt that defines the Inner River Zone of the Sacramento River Conservation Area.
- **Site Access - River Access:** The Subunit is accessible from east bank of the river at a cut bank
 - **Public Road Access:** The site has no public road access. Legal public access is only from the river.

Adjoining Property:	Direction	Land Use	Ownership
	N	open, riparian	private
	S	riparian	private
	E	row crops	private
	W	river/riparian	State, TNC

Physical Description: The Subunit is roughly a rectangle located on the east side of the river. A swale lies along the east boundary of the site, which rises to a high terrace midsite with a low terrace near the river. The combination of the swale and the thick riparian jungle make the site very difficult to penetrate. There are no roadways or pathways across the site.

- **River Channel Meander History / 25 & 50-Year Projections:** The river has occupied almost the entire site over the past century with the channel moving to the west. No substantive change to the site is projected by DWR over the 25 and 50-year projection periods.
- **Inundation Frequency:** The site has a DWR estimated inundation frequency of one to two years.
- **Soils:** With the exception of a small area of channel material, almost 100% of the soil within the south parcel area consist of Vina Loam.

Vegetation:

- **Habitat Types :** (adapted from DWR GIS / Chico St. analysis of 1999 aerial photos)

Cottonwood Forest	31 ac.
Gravel	1 ac.
Riparian Scrub	10 ac.

- **Existing Vegetation Comments:** The site is dense riparian habitat dominated by tall cottonwoods. No unusual or significant vegetation has been identified.
- **Existing and Historical Agriculture:** The Subunit has been within the river channel over the past century and there is no known history of agricultural use.
- **Vegetation Succession Projection:** The vegetation on the site is expected to either remain a Great Valley Cottonwood Forest or transition to a Great Valley Mixed Riparian Forest.
- **Restoration History:** No known restoration activity has occurred on the site
- **Analysis of Restoration Potential:** The site is entirely in riparian vegetation and no need for restoration exists.

Special Status Species: See standard species for the Wildlife Area.

- The joint DFG/SFWS survey recorded a Bank Swallow colony on the site in 2002.

Cultural Features: No significant cultural features or recorded archaeological sites have been identified on the site

Research and Monitoring Activities: No research or monitoring activities other than standard Department monitoring have been identified.

Acquisition:

Parcel History No.	Year	Acres	Funding Source:
821334	1994	Fund 786 - Ca. Wildlife, Coastal & Parkland Cons. Act (Prop. 70, 1988)	

Specific Management Issues / Concerns: None have been identified.

Potential for Coordinated Management with Adjacent Properties: The adjoining 23 acres of row cropland to the east are subject to a conservation easement to the benefit of DFG. Development is precluded but public access is not permitted. To the west across the river is the 264-acre Ward property, which is owned by TNC. It is anticipated that the area will be transferred to the State Department of Parks and Recreation as an expansion of the adjoining Colusa – Sacramento River State Recreation Area. Approximately one-half mile to the north is the Colusa-North Subunit on the west side of the river, on the east side is a 52-acre island parcel owned by the Sacramento and San Joaquin Drainage District and farther east is the Colusa Weir area which is managed by DFG for hunting purposes. This concentration of publicly owned riparian habitat offers the potential for coordinated management of this relatively large area.

Other Reports / Data Available:

- California Department of Fish and Game, Property Inventory Form, Property # 02397, Parcel History 821334. Sacramento, California.

Colusa Unit

147

North

146

South

145

0.1 0 0.1 0.2 0.3 Miles

■ Rivermiles

□ DFG Boundaries



Site: Colusa Unit (North & South)
USGS Quads: Colusa & Meridian

